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R E P O R T S
FROM
C O M M I T T E E S :

SEVEN VOLUMES.

—(7.)—

RAILWAY SERVANTS (HOURS OF LABOUR) BILL;
SALE OF GOODS BILL (H.L.);
SEA FISHERIES;
STATUTE LAW REVISION BILLS;
SUFFOLK COUNTY COUNCIL (BORROWING POWERS) BILL.

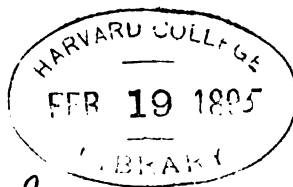
Session

31 *January* 1893—5 *March* 1894.

15
VOL. XV.

1893-94.

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REPORTS FROM COMMITTEES:

1893-94.

SEVEN VOLUMES:—CONTENTS OF THE

SEVENTH VOLUME.

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R E P O R T

FROM THE

STANDING COMMITTEE

ON

TRADE (INCLUDING AGRICULTURE AND
FISHING),
SHIPPING, AND MANUFACTURES,

ON THE

RAILWAY SERVANTS (HOURS OF
LABOUR) BILL;

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
20 March 1893.*

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1893.

STANDING COMMITTEE ON
TRADE (INCLUDING AGRICULTURE AND FISHING),
SHIPPING, AND MANUFACTURES.

[*Tuesday, 28th February 1893*]:—Sir John Mowbray reported from the Committee of Selection; That they had nominated the following Members to serve on the Standing Committee for the consideration of all Bills relating to Trade (including Agriculture and Fishing), Shipping, and Manufactures, which may, by Order of the House, be committed to such Standing Committee.

Committee nominated of—

Mr. Addison.
Mr. Arch.
Mr. Asher.
Mr. Barran.
Mr. J. Barry (Wexford).
Sir Michael Hicks Beach.
Mr. Edward Blake.
Mr. Bonsor.
Mr. Boord.
Mr. A. H. Brown.
Mr. Burt.
Mr. Caine.
Mr. Joseph Chamberlain.
Mr. Chancellor of the Exchequer.
Mr. Channing.
Mr. Jesse Collings.
Mr. Colman.
Sir Charles Dalrymple.
Baron Henry De Worms.
Sir Frederick Dixon-Hartland.
Mr. Everett.
Mr. Charles Fenwick.
Mr. Hayes Fisher.
Mr. Penrose FitzGerald.
Mr. Gilliat.
Sir Julian Goldsmid.
Mr. Goschen.
Mr. Gourley.
Sir Reginald Hanson.
Mr. Timothy Harrington.
Sir John Hibbert.
Sir William Houldsworth.
Mr. Howell.
Mr. Jackson.

Mr. Joicey.
Mr. Long.
Sir John Lubbock.
Mr. Macartney.
Mr. M'Lagan.
Mr. Morrogh.
Mr. Mowbray.
Mr. Mundella.
Mr. Murray.
Mr. Naoroji.
Sir Stafford Northcote.
Mr. T. P. O'Connor.
Mr. Oldroyd.
Sir Richard Paget.
Sir Joseph Pease.
Mr. Power.
Mr. Randell.
Mr. Rankin.
Mr. Rathbone.
Mr. Roche.
Mr. Round.
Colonel Saunderson.
Mr. Sexton.
Mr. Samuel Smith.
Mr. Solicitor General.
Sir Mark Stewart.
Mr. T. D. Sullivan.
Mr. Tomlinson.
Sir George Trevelyan.
Sir Richard Webster.
Mr. Webster.
Sir James Whitehead.
Mr. Stephen Williamson.
Mr. C. H. Wilson.

[*Thursday, 9th March 1893*]:—Railway Servants (Hours of Labour) Bill,—Order for Committee read, and discharged:—Bill committed to the Standing Committee on Trade, Shipping, and Manufactures.

[*Tuesday, 14th March 1893*]:—Sir John Mowbray reported from the Committee; That they had added to the Standing Committee on Trade (including Agriculture and Fishing), Shipping, and Manufactures, the following Fifteen Members in respect of the Railway Servants (Hours of Labour) Bill :—Mr. Butcher, Mr. Cayzer, Mr. Crawford, Mr. Flynn, Sir John Gorst, Mr. Heneage, Sir Henry Howorth, Sir Seymour King, Mr. Walter M'Laren, Mr. MacInnes, Mr. Maguire, Mr. Mather, Sir Herbert Maxwell, Mr. John Wilson (Durham), and Mr. Woods.

[*Wednesday, 15th March 1893*]:—Sir Henry James reported from the Chairmen's Panel; That they had appointed Sir Henry James to act as Chairman of the Standing Committee for the consideration of Bills relating to Trade (including Agriculture and Fishing), Shipping, and Manufactures.

[*Friday, 17th March 1893*]:—Sir John Mowbray reported from the Committee of Selection; That they had discharged the following Member from the Standing Committee on Trade (including Agriculture and Fishing), Shipping, and Manufactures :—Mr. Macartney; and had appointed in substitution : Mr. David Plunket (Dublin University).

[*Monday, 27th March 1893*]:—That the Standing Committee on Trade (including Agriculture and Fishing), Shipping, and Manufactures, have leave to print and circulate with the Votes the Minutes of their Proceedings and any amended clauses of Bills committed to them.

R E P O R T.

THE STANDING COMMITTEE on TRADE (including AGRICULTURE and FISHING), SHIPPING, and MANUFACTURES, to whom the RAILWAY SERVANTS HOURS of LABOUR) BILL was referred ;—HAVE gone through the BILL, and made Amendments thereunto.

March 1893.

STANDING COMMITTEE ON TRADE (INCLUDING AGRICULTURE AND FISHING), SHIPPING, AND MANUFACTURES.

Monday, 20th March 1893.

MEMBERS PRESENT:

Sir HENRY James in the Chair.

Mr. Asher.	Mr. W. L. Jackson.
Mr. Barran.	Mr. Joicey.
Sir Michael Hicks Beach.	Sir Seymour King.
Mr. Edward Blake.	Mr. MacInnes.
Mr. A. Hargreaves Brown.	Mr. Walter M'Laren.
Mr. Burt.	Mr. Mather.
Mr. Butcher.	Sir Herbert Maxwell.
Mr. Caine.	Mr. Mowbray.
Mr. Channing.	Mr. Mundella.
Mr. Crawford.	Mr. Dadabhai Naoroji.
Sir F. Dixon-Hartland.	Sir Stafford Northcote.
Mr. Everett.	Mr. Oldroyd.
Mr. Charles Fenwick.	Sir Joseph Pease.
Mr. Hayes Fisher.	Mr. D. R. Plunket.
Mr. R. U. Penrose FitzGerald.	Mr. Randell.
Sir Julian Goldsmid.	Mr. Rathbone.
Sir John Gorst.	Mr. Round.
Mr. Gourley.	Mr. Solicitor-General.
Mr. Heneage.	Mr. Tomlinson.
Sir John Hibbert.	Mr. Webster.
Mr. Howell.	Mr. Stephen Williamson.
Sir Henry Howorth.	Mr. C. H. Wilson.

RAILWAY SERVANTS (HOURS OF LABOUR) BILL.

Clause 1.—Amendment proposed, in page 1, line 5, to leave out from the word “if” to the word “rest” in line 8, in order to insert the words:—

“(1.) If it is represented to the Board of Trade, by or on behalf of the servants, or any class of the servants, of a railway company, that the hours of labour of those servants, or of that class, on any part of the lines of the company, are excessive, or do not provide sufficient intervals of uninterrupted rest between the periods of duty, or sufficient relief in respect of Sunday duty, the Board of Trade shall inquire into the representation.

“(2.) If it appears to the Board of Trade, either on such representation or otherwise, that there is, in the case of any railway company, reasonable ground of complaint with respect to any of the matters aforesaid.”—(Mr. Mundella).—Question, That the words proposed to be left out stand part of the Clause,—put, and *negatived*.

Question proposed. That the proposed words:—

“(1.) If it represented to the Board of Trade, by or on behalf of the servants, or any class of the servants, of a railway company, that the hours of labour of those servants, or of that class, on any part of the lines of the company, are excessive, or do not provide sufficient intervals of uninterrupted rest between the periods of duty, or sufficient relief in respect of Sunday duty, the Board of Trade shall inquire into the representation.

“(2.) If it appears to the Board of Trade, either on such representation or otherwise, that there is, in the case of any railway company, reasonable ground of complaint with respect to any of the matters aforesaid,” be there inserted.

Amendment

Amendment proposed to proposed Amendment, to leave out the words "or on behalf of the servants or any class of the servants of a railway company," in order to insert the words "two or more persons in the regular employment of a railway company, or by the chairman, secretary, or other official or committee of any trade society of railway servants, or of any branch of such society, connected with such railway"—(Mr. Channing).—Question. That the words proposed to be left out stand part of the proposed Amendment—put, and *agreed to*.

Another Amendment proposed to proposed Amendment, to leave out the words "those servants or of that class," in order to insert the words "any servant or servants, or any class of servants"—(Mr. Channing).—Question put, That the words proposed to be left out stand part of the proposed Amendment.—The Committee divided :

Ayes, 19.

Mr. Asher.
Sir Michael Hicks Beach.
Mr. A. Hargreaves Brown.
Mr. Burt.
Sir Frederick Dixon-Hartland.
Sir Julian Goldsmid.
Sir John Hibbert.
Sir Henry Howorth.
Mr. W. L. Jackson.
Mr. Joicey.
Sir Herbert Maxwell.
Mr. Mundella.
Sir Stafford Northcote.
Sir Joseph Pease.
Mr. D. R. Plunket.
Mr. Round.
Mr. Tomlinson.
Mr. Webster.
Mr. C. H. Wilson.

Noes, 18.

Mr. Barran.
Mr. Edward Blake.
Mr. Caine.
Mr. Channing.
Mr. Donald Crawford.
Mr. Fenwick.
Mr. R. U. Penrose FitzGerald.
Mr. Gourley.
Sir Seymour King.
Mr. MacInnes.
Mr. Walter M'Laren.
Mr. Mather.
Mr. Mowbray.
Mr. Dadabhai Naoroji.
Mr. Oldroyd.
Mr. Randell.
Mr. Rathbone.
Mr. S. Williamson.

An Amendment made to proposed Amendment.

Another Amendment proposed to proposed Amendment as amended, to leave out the words "are excessive," in order to insert the words "not being signalmen or shunters exceed ten hours, or being signalmen or shunters exceed eight hours (exclusive of meal times), in any twenty-four hours"—(Sir Seymour King).—Question proposed, That the words proposed to be left out stand part of the proposed Amendment.

Amendment, by leave, *withdrawn*.

Another Amendment proposed to proposed Amendment, as amended, to leave out the words "inquire into the representation," in order to insert the words "require the Company to furnish particulars as to the booked and actual hours of duty of such servants for any period not less than one month and not exceeding three months, and in any form the board may think fit, and shall, if necessary, direct an inquiry to be held by an inspector of the board"—(Mr. Channing).—Question, That the words proposed to be left out stand part of the proposed Amendment,—put, and *agreed to*.

Question, That the Amendment, as amended, be there inserted,—put, and *agreed to*.

Another Amendment proposed, in page 1, line 10, after the words "schedule of," to insert the word "booked"—(Mr. Channing).—Question proposed, That the word "booked" be there inserted.

Amendment, by leave, *withdrawn*.

Other Amendments made.

Another Amendment proposed, in page 1, line 13, after the word "work," to insert the words "and if any schedule so submitted is in their opinion unsatisfactory the board shall repeat the order from time to time till a satisfactory revision of the hours of work of such servants shall have been submitted by the company and approved by the Board of Trade"—(Mr. Channing).—Question, That those words be there inserted,—put, and *negatived*.

Another Amendment proposed, in page 1, line 14, to leave out from the word "if" to the word "mentioned" in line 20, in order to insert the words "(2) The Board of Trade may from time to time give notice to any railway company within two months to submit Amendments to any schedule of hours sanctioned as hereinbefore provided, and if, within three months from the date of the notice, Amendments satisfactory to the Board of Trade shall not have been agreed between the company and the Board of Trade, the sanction of the original schedule shall, *ipso facto*, cease to have effect, Provided that the Board of Trade shall

have power to extend the periods hereinbefore provided, or either of them"—(Sir *Seymour King*).—Question put, That the words proposed to be left out stand part of the Clause.—The Committee divided :

Ayes, 34.

Mr. Asher.
Mr. Barran.
Sir Michael Hicks Beach.
Mr. Edward Blake.
Mr. A. Hargreaves Brown.
Mr. Burt.
Mr. Butcher.
Mr. Caine.
Mr. Channing.
Mr. Donald Crawford.
Sir Frederick Dixon-Hartland.
Mr. Everett.
Mr. Fenwick.
Mr. Hayes Fisher.
Mr. R. U. Penrose FitzGerald.
Sir Julian Goldsmid.
Mr. Gourley.
Sir Henry Howorth.
Mr. W. L. Jackson.
Mr. Joicey.
Mr. MacInnes.
Mr. Mowbray.
Mr. Mundella.
Mr. Dadabhai Naoroji.
Sir Stafford Northcote.
Mr. Oldroyd.
Sir Joseph Pease.
Mr. D. R. Plunket.
Mr. Rathbone.
Mr. Round.
Mr. Tomlinson.
Mr. Webster.
Mr. S. Williamson.
Mr. C. H. Wilson.

Noes, 5.

Sir John Gorst.
Sir Seymour King.
Mr. Walter M'Laren.
Mr. Mather.
Mr. Randell.

Another Amendment made.

Another Amendment proposed, in page 1, line 26, to leave out the word "twenty," in order to insert the words "one hundred"—(Sir *Seymour King*).—Question put, That the word "twenty" stand part of the Clause.—The Committee divided :

Ayes, 15.

Sir Michael Hicks Beach.
Mr. A. Hargreaves Brown.
Sir Frederick Dixon-Hartland.
Mr. R. U. Penrose FitzGerald.
Sir Julian Goldsmid.
Mr. W. L. Jackson.
Mr. Joicey.
Mr. MacInnes.
Mr. Walter M'Laren.
Mr. Mundella.
Sir Stafford Northcote.
Sir Joseph Pease.
Mr. D. R. Plunket.
Mr. Round.
Mr. C. H. Wilson.

Noes, 21.

Mr. Asher.
Mr. Edward Blake.
Mr. Burt.
Mr. Butcher.
Mr. Channing.
Mr. Donald Crawford.
Mr. Everett.
Mr. Fenwick.
Sir John Gorst.
Mr. Gourley.
Sir Henry Howorth.
Sir Seymour King.
Mr. Mather.
Mr. Mowbray.
Mr. Dadabhai Naoroji.
Mr. Oldroyd.
Mr. Randell.
Mr. Rathbone.
Mr. Tomlinson.
Mr. Webster.
Mr. S. Williamson.

Proposed words inserted.

Another Amendment made.

Clause, as amended, *agreed to*.

Clause 2, *agreed to*.

New Clause (Special provisions as to signalmen) brought up and read the first time, as follows:—"In the case of signalmen, the Board of Trade, within one month after the passing of this Act, shall, by order, require every railway company in the United Kingdom to submit to the Board, within period specified in the order, a classified schedule of all signal-boxes on the system of such company, dividing such signal-boxes into boxes in which the hours of duty of the signalmen employed therein do not exceed eight hours and ten hours respectively, and stating such further particulars as the Board may in such order require to be furnished, and especially the number of relief signalmen in the employment of the company, and the proportion of such relief signalmen, to the number of signalmen regularly on duty on each section of the company's lines. The Board may from time to time by order require any company to submit to them a revised schedule of signal-boxes, and if any schedule so submitted is in their opinion unsatisfactory, the Board may repeat the order from time to time till a satisfactory classification of such signal-boxes shall have been submitted by the company and approved by the Board of Trade. Where, in the opinion of the Board of Trade, the number of relief signalmen in the employment of any company on any section of such company's lines is insufficient, having regard to the number of signalmen regularly on duty on such section of the company's lines, and to the circumstances of the traffic, and the nature of the work, the Board may order such company to make, within a period specified in the order, such reasonable increase in the number of relief signalmen as may appear to them to be necessary.

"If it appears to the Board of Trade that the duties of signalmen at any signal-box on any branch or section of the lines of a company, owing to the small number of trains passed, are not continuous, the Board may by order certify such boxes as signal boxes, wherein the hours of duty are not to exceed twelve"—(Mr. *Channing*).—Question put, That the Clause be read a second time.—The Committee divided:

Ayes, 5.

Mr. Caine.
Mr. Channing.
Mr. Walter McLaren.
Mr. Dadabhai Naoroji.
Mr. Randell.

Noes, 31.

Sir Michael Hicks Beach.
Mr. Edward Blake.
Mr. A. Hargreaves Brown.
Mr. Burt.
Mr. Butcher.
Mr. Donald Crawford.
Sir Frederick Dixon-Hartland.
Mr. Everett.
Mr. Fenwick.
Mr. Hayes Fisher.
Sir Julian Goldsmid.
Mr. Heneage.
Sir John Hibbert.
Mr. George Howell.
Mr. W. L. Jackson.
Mr. Joicey.
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Mr. Mundella.
Sir Stafford Northcote.
Mr. Oldroyd.
Sir Joseph Pease.
Mr. D. R. Plunket.
Mr. Rathbone.
Mr. Round.
Mr. Tomlinson.
Mr. S. Williamson.
Mr. C. H. Wilson.

New Clause (Annual Report to Parliament) brought up and read the first time, as follows:—"A report of all proceedings under this Act shall be made annually to Parliament by the Board of Trade"—(Mr. *Crawford*).—Clause read a second time.

Amendment proposed to proposed New Clause, to leave out the word "annually," in order to insert the words "half yearly"—(Mr. *Walter McLaren*).—Question, That the word "annually" stand part of the proposed New Clause—put, and agreed to.

Clause added to the Bill.

New Clause (Definition) brought up and read the first time, as follows:—

"The word 'excessive' in this Bill shall mean cases in which the hours of labour systematically or recurrently or frequently exceed ten hours in any twenty-four hours in the case of engine drivers, firemen, passenger guards, goods guards, porters, signalmen employed at ten-hour boxes, and shunters employed in ten-hour yards, or nine hours in the case of platelayers, or eight hours in the case of signalmen employed at eight-hour boxes, and shunters employed in eight-hour yards"—(Mr. Channing).—Question, That the Clause be read a second time—put, and *negatived*.

Question, "That the Bill as amended be reported to the House"—put, and *agreed to*.

Ordered, To Report.

REPORT

FROM THE

STANDING COMMITTEE

ON

TRADE (INCLUDING AGRICULTURE AND FISHING),
SHIPPING, AND MANUFACTURES,

ON THE

RAILWAY SERVANTS (HOURS OF
LABOUR) BILL;

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
20 March 1893.*

[Price 1½ d.]

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Under 2 oz.

R E P O R T

FROM THE

SELECT COMMITTEE

ON THE

SALE OF GOODS BILL [H.L.];

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
15 August 1893.*

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SALE OF GOODS BILL [H.L.].

Ordered,—[*Friday, 23rd June 1893*]:—THAT the Order for Committee be read, and discharged. Bill committed to a Select Committee.

Committee nominated—[*Monday, 24th July 1893*]:—of—

Mr. Ambrose.	Mr. O'Keeffe.
Mr. Bousfield.	Sir Charles Russell.
Mr. Alexander Cross.	Mr. Shiress Will.
Mr. Brynmor Jones.	Sir Richard Webster.
Mr. Mather.	

THAT the Committee have power to send for Persons, Papers, and Records.

THAT Five be the Quorum of the Committee.

Ordered,—[*Friday, 4th August 1893*]:—THAT Mr. Alexander Cross be discharged from further attendance on the Committee, and that Mr. Asher be added to the Committee.

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R E P O R T.

THE SELECT COMMITTEE to whom the SALE OF GOODS BILL [H.L.] was referred, have considered the said Bill, which they have agreed to report to the House ; and have gone through the Bill, and made Amendments thereunto.

15 August 1893.

PROCEEDINGS OF THE COMMITTEE.

Monday, 31st July 1893.

MEMBERS PRESENT:

Mr. O'Keeffe.
Mr. Shiress Will.
Mr. Mather.

Sir Charles Russell.
Mr. Alexander Cross.

Sir CHARLES RUSSELL was called to the Chair.

The Committee deliberated.

[Adjourned till Tuesday, 8th August, at Twelve o'clock.]

Tuesday, 8th August 1893.

MEMBERS PRESENT:

Sir CHARLES RUSSELL in the Chair.

Mr. Bousfield.
Mr. Ambrose.
Mr. Asher.

Mr. Mather.
Mr. Shiress Will.
Mr. O'Keeffe.

The Committee deliberated.

[Adjourned till Friday next, at Twelve o'clock.]

Friday, 11th August 1893.

MEMBERS PRESENT:

Mr. Ambrose.
Mr. Asher.
Mr. Bousfield.

Mr. Mather.
Sir Richard Webster.
Mr. Shiress Will.

Mr. ASHER, in the absence of Sir CHARLES RUSSELL, was called to the Chair.

The Committee deliberated.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 15th August 1893.

MEMBERS PRESENT :

In the absence of Sir CHARLES RUSSELL, Mr. ASHER took the Chair.

Mr. Ambrose.
Mr. Bousfield.
Mr. Mather.

Sir Richard Webster.
Mr. Shiress Will.

SALE OF GOODS BILL [H.L.].

The Committee proceeded with the Bill.

Clauses 1—3, *agreed to*.

Clause 4, amended, and *agreed to*.

Clause 5, *agreed to*.

Clause 6, amended, and *agreed to*.

Clauses 7—9, *agreed to*.

Clause 13, amended, and *agreed to*.

Clause 10, *disagreed to*.

Clause 12, amended, and *agreed to*.

Clause 13, *agreed to*.

Clause 14, amended, and *agreed to*.

Clause 15, amended, and *agreed to*.

Clause 16, amended, and *agreed to*.

Clauses 17—21, *agreed to*.

Clause 22, *agreed to*.

Clause 23, *postponed*.

Clause 24, *agreed to*.

Clause 25, *postponed*.

Clause 26, *agreed to*.

Clause 27, amended, and *agreed to*.

Clauses 28—29, *agreed to*.

Clauses 30—31, amended, and *agreed to*.

Clause 32, *agreed to*.

Clause 33, amended, and *agreed to*.

Clauses 34—38, *agreed to*.

Clauses 39—45, *agreed to*.

Clauses 46—52, *agreed to*.

Clause 53, amended, and *agreed to*.

Clause 54, *postponed*.

Clause 55, *agreed to*.

Clause 56, *disagreed to*.

Clause 57, amended, and *agreed to*.

Clauses 58—59, *agreed to*.

Clause 60, *postponed*.

Clause 61, *agreed to*.

Clause 62, *postponed*.

Clauses 63—64, amended, and *agreed to*.

Clauses 65—66, *agreed to*.

Postponed Clause 23, *disagreed to*.

Postponed Clause 25, *agreed to*.

Postponed Clause 54, *agreed to*,

Postponed Clause 60, *disagreed to*.

Postponed Clause 62, amended, and *agreed to*.

New Clause (Effect of sale in market overt abolished)—(Sir *Richard Webster*),—brought up and read the first and second time, and added to the Bill.

Schedule First, *disagreed to*.

Schedule Second, *agreed to*.

Ordered, To Report the Bill, as amended, to the House.

REPORT

FROM THE

SELECT COMMITTEE

OF THE

SALE OF GOODS BILL [H.L.];

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
15 August 1893.*

[Price 1 d.]

R E P O R T
FROM THE
SELECT COMMITTEE
ON
SEA FISHERIES;

TOGETHER WITH THE
PROCEEDINGS OF THE COMMITTEE,
MINUTES OF EVIDENCE,
APPENDIX AND INDEX.

*Ordered, by The House of Commons, to be Printed,
17 August 1893.*

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SEA FISHERIES.

*Ordered,—[Monday, 27th March 1893]:—*THAT a Select Committee be appointed to consider the expediency of adopting measures for the preservation and improvement of the Sea Fisheries in the seas around the British Islands, including the prohibition of the capture, landing, or sale of undersized sea fish, the prohibition of the sale or possession of certain sea fish during the periods when their capture is forbidden, the fixing of close seasons, the prohibition or regulation of certain methods of fishing, the protection of defined areas, and other like regulations, international or otherwise.

*Ordered,—[Monday, 17th April 1893]:—*THAT the Select Committee on Sea Fisheries do consist of Seventeen Members.

Committee nominated—of,—

Commander Bethell.	Major Jones.
Mr. Buchanan.	Mr. Kearley.
Dr. Clark.	Mr. Mallock.
Colonel Cotton-Jodrell.	Mr. Marjoribanks.
Mr. Harry Foster.	Mr. Pinkerton.
Mr. Furness.	Mr. Robert Price.
Mr. Heneage.	Sir Albert Rollit.

THAT the Committee have power to send for Persons, Papers, and Records.

THAT Five be the Quorum.

*Ordered,—[Wednesday, 19th April 1893]:—*THAT Mr. Hozier and Mr. James William Lowther be discharged from the Select Committee on Sea Fisheries.

THAT Lord George Hamilton and Mr. Renshaw be added to the Committee.

*Ordered,—[Thursday, 27th April 1893]:—*THAT Mr. William O'Brien be discharged from the Select Committee on Sea Fisheries.

THAT Dr. Tanner be added to the Committee.

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R E P O R T.

THE SELECT COMMITTEE appointed to consider the expediency of adopting measures for the preservation and improvement of the **SEA FISHERIES** in the seas around the British Islands, including the prohibition of the capture, landing, or sale of undersized sea fish, the prohibition of the sale or possession of certain sea fish during the period when their capture is forbidden, the fixing of close seasons, the prohibition or regulation of certain methods of fishing, the protection of defined areas, and other like regulations, international or otherwise ;—**HAVE** considered the matters to them referred, and have agreed to the following **REPORT** :—

YOUR Committee have held 20 sittings for the purpose of taking evidence, and have endeavoured to obtain, as witnesses, representative men of all the different classes interested in the sea fisheries from all parts of the Kingdom.

They desire, however, to place it on record that a Committee of the House of Commons is not an altogether satisfactory tribunal to take evidence with regard to the grievances and wants of fishermen, so far as the evidence of the fishermen themselves is concerned. This is partly on account of the fact that the time at which Parliamentary Committees sit is exactly that at which fishery operations are carried on most conveniently, and with the greatest amount of success ; and partly because a Parliamentary Committee necessarily requires all witnesses to attend at Westminster,—a source both of expense in the conduct of the inquiry, and of inconvenience to the fishermen themselves. Your Committee would therefore suggest that, if further information should appear to be desirable, it might be well that this inquiry should be supplemented by the appointment of small Departmental Committees which, by visiting various fishing centres around the coast, would give full scope to fishermen to bring forward any suggestions or grievances which they may have.

Objection to inquiry by Select Committee.

Your Committee have, however, had an advantage over any previous fishery inquiry in the fact that they have had laid before them the statistics which have of recent years been collected by the Board of Trade, and the statistics compiled by the officers of the Scottish Fishery Board ; and they have also had the evidence founded on the observations of the scientific experts employed by the Marine Biological Association, and by the Scottish Fishery Board. Indeed, it may be almost said that this is the first fishery inquiry in which the more important complaints have been founded, not merely on the statements and the ideas of rival classes of fishermen, but upon facts and statistics. Complaints have generally been made that the statistics are not so accurate or so complete as they might be, and, especially, that they do not indicate the particular fishing grounds on which the fish are caught. The comparative success of our fisheries in any given place, or in any given year, depends so much on conditions of weather and of atmosphere, on the movements or migration of fishes, and the supply of the natural food of the various kinds of fishes, that it is very difficult, except after a careful and complete examination of the circumstances under which the fisheries have been conducted for a number of years, to arrive at any true conclusion as to the reasons of their comparative success or failure in any given year, or whether there has been any real falling off in the fish supply in a particular district, or what the reasons for such a falling off may be, if it has occurred. Your Committee are strongly of opinion that any steps which may be taken to increase the trustworthy character and the fulness of official statistics would amply repay the expenditure which may be necessary to ensure the improvement.

Value of statistics and necessity of carefully conducted observations.

With regard to the more important fisheries carried on by British fishermen from British ports, your Committee would report that, so far as the herring fisheries are concerned,

Herring fisheries.

concerned, there is no indication of any falling off in the number of herrings to be found off our coasts; and, with the one exception of the herring fishing at Howth, in Ireland, no allegation has even been made of any permanent depletion having occurred with regard to this most important fishery.

Other round
fish: cod,
haddock.

With regard to other round fish, amongst the most important of which are the cod and the haddock, though local scarcities in certain places off the coast of Scotland are stated to have been caused by the operations of the trawlers, your Committee have no evidence that there has been generally any important diminution of their numbers; nor has it been suggested to them that any special legislative step should be taken with regard to these fish.

Flat fish:
soles, plaice.

When, however, we come to the large class of flat fish, the circumstances differ. Off the south coast of England, the evidence seems to show with regard to these fish also, that there has been little or no falling off in their size or abundance; but when we turn to the great fishing grounds of the North Sea, from the evidence which has been given by all persons interested in the fisheries, whether trawlers or linesmen, whether smack owners or fishermen, whether scientific experts or statisticians, there seems to be no doubt that a considerable diminution has occurred amongst the more valuable classes of flat fish, especially among soles and plaice, and that this diminution must be attributed to over-fishing by trawlers in certain localities. It is true that there will not be found a great falling off in the bulk of these fish landed on the east coast. But the appliances for catching them have of recent years been greatly increased in size and efficiency, and the fishing grounds have been largely extended in area, trawlers going as far as the coast of Iceland to the north, and to the Portuguese coast in the south. The great falling off too in the size of the flat fish caught on the older fishing grounds in the North Sea is also a matter of universal observation. An immense number of these smaller sized fish are caught on the shallow, sandy grounds on the east side of the North Sea, off the Dutch and German coasts.

Size limits.

The principal remedy which has been suggested to your Committee for this state of things is the enactment of a law forbidding the landing and sale of flat fish below a certain limit of size; and a principal reason given in support of this proposal is a belief that, by the enforcement of a size limit with regard to sale and landing, trawlers would avoid those fishing grounds on which such small fish are mostly captured, owing to the fact that it would not be worth their while to take fish which it would be impossible for them to sell.

The prohibition of the capture of these fish is not suggested, and, indeed, is admitted on all hands to be impossible.

Size limits have already been adopted by Belgium, Denmark, and France; though, in the case of these countries, the limit is a very small one, namely, in the case of Belgium, for plaice 7·2 inches, for soles 7·2 inches, for turbot 10 inches, for brill 10 inches, from the point of the nose to the tip of the tail. In the case of Denmark, 8 inches for plaice, and 8 inches for turbot, from the point of the nose to the root of the tail. In the case of France, for plaice 5½ inches, for sole 5½ inches, from eye to root of tail.

Two limits of size have been suggested to your Committee for such an enactment; one by the National Sea Fisheries Protection Association, which is, for brill 12 inches, for lemon soles 11 inches, for plaice 10 inches, for soles 10 inches, and for turbot 12 inches: the second, somewhat higher, by the scientific experts of the Marine Biological Association, founded on the sizes at which the various fishes come to sexual maturity, which, so far as the North Sea is concerned, appear to be 17 inches for plaice, 12 inches for soles, 18 inches for turbot, 15 inches for brill, and 12 inches for lemon soles. These experts do not, however, recommend that quite so high a limit as that of sexual maturity should be adopted.

Suggested
size limits
impracticable;
a smaller limit
proposed by
Committee.

Your Committee are unable to recommend either of these limits; they consider that, while it might be desirable to forbid the sale of small flat fish, the adoption of the sizes suggested would involve great hardship to many of the poorer fishermen who fish near the shore in the smaller class of boats.

They are of opinion that the size limit, below which the sale of small flat fish should be prohibited, should approximate to that already adopted by foreign countries; and they would suggest a limit of eight inches in extreme length for soles and plaice, and 10 inches for turbot and brill. They also consider that a strong effort should be made to secure the adoption of uniform regulations for limits of size and other matters by all the nations interested in the North Sea Fisheries.

In this enquiry, as in former fishery enquiries, the fact has been constantly brought out, that one of the chief problems to be solved in fishery legislation is the method by which various classes of fishermen, fishing on the same ground, can be kept from interfering with each other's operations, and injuring each other's gear. Regulations are made from time to time for this purpose, but difficulties arise as to how those regulations are to be carried out, from the want of a proper body, in the shape of an efficient sea police, to enforce them.

Differences between various classes of fishermen; injury to gear, &c.; defective sea police.

Your Committee are sensible of the difficulties of making international regulations, but are nevertheless of opinion that the best method for effectively governing the operations of the various classes of fishermen, and, at the same time, for securing, so far as it may be found possible, the proper protection of spawning and immature fish, would be to throw the responsibility of these duties, so far as the waters immediately adjacent to the various countries are concerned, on those various countries; that, for the effective realisation of this object, the present territorial limit of three miles is insufficient, and that, for fishery purposes alone, this limit should be extended, provided such extension can be effected upon an international basis, and with due regard to the rights and interests of all nations. Your Committee would earnestly recommend that a proposition on these lines should be submitted to an international conference of the powers who border on the North Sea.

International regulations difficult; extension of territorial limit proposed.

The question naturally arises at this point, to what authorities in British waters the care and regulation of sea fisheries should be entrusted, whether that area be extended or within the present restricted territorial limit.

Fishery authorities in British waters; defects of existing system.

Your Committee would recall the fact that the Trawling Commission, in their Report in 1885, recommended the establishment of a central authority to supervise and control the fisheries of Great Britain, if not of the United Kingdom; or that, in the meantime, extended powers should be given to the Scottish Fishery Board; and that a similar board, with similar powers, should be created for England. They further recommended, that to these bodies there should be granted the necessary sums of money for the purpose of conducting scientific experiments, and for collecting fishery statistics; and that adequate arrangements should be made for the establishment and maintenance of an efficient sea police, under the control of the fishery authorities so constituted.

Since the date of this Report, extended powers have been granted to the Scottish Fishery Board, and district sea fishery committees have been established in England. At the present moment, therefore, while in England there are district sea fishery committees, there is no fishery board; in Scotland there is a fishery board, and there are no district sea fishery committees. Furthermore, the district sea fishery committees in England, and the fishery board in Scotland, both labour under one and the same disadvantage, that of being without any directly elected representative element.

Your Committee would strongly urge that measures should be at once taken to introduce such a direct representative element into the English district sea fishery committees, and that an English Sea Fishery Board should be established, in its turn, largely representative of the district sea fishery committees. Similarly, in Scotland, that directly representative district sea fishery committees should be instituted, and that the Scottish Fishery Board should be largely representative of the Scottish district sea fishery committees.

Proposed constitution of fishery authorities.

Your Committee would entrust to these authorities, jointly, the care and regulation of all British sea fisheries, and would recommend that they should be supplied with adequate funds to collect statistics, to carry on the necessary scientific observations and investigations, and to keep up an efficient sea police to enforce the regulations made by them.

Powers proposed to be entrusted to fishery authorities.

Up to the present time, such sea police as has been in existence has been supplied by special cruisers, detached by the Admiralty for this service. This system has not in all respects proved adequate or satisfactory, and, so far, at any rate, as exclusively British waters are concerned, your Committee believe that these cruisers should be supplemented by a special force, organized by, and under, the fishery authorities themselves, who should be provided with a number of fast steam vessels of a class similar to the newest examples of steam-trawlers. The Lancashire Sea Fishery Committee have already set an example in this direction, by the purchase and equipment of such a vessel, which cost about 5,000*l*. These vessels, besides being used for police work, would also be utilized for the purpose of scientific observation and experiment.

Sea Police.

Oysters ;
English beds.

Evidence of considerable interest was given to your Committee with regard to the English oyster fisheries, which proves, without possibility of doubt, that the depletion of English oyster beds has been extensive. The reason of this depletion, your Committee are inclined to believe, is mainly to be found in repeated and continued failures of the spatting seasons. Your Committee does not feel competent to offer any opinion as to how this unfortunate state of things can best be remedied, but they consider that it is a matter worthy of further enquiry, with the view of enabling the fishery authorities of Great Britain to deal with the subject at an early date.

Sale of foreign
oysters during
close time for
natives.

It was strongly urged upon your Committee that they should recommend that the sale of foreign oysters brought to England, and relaid on British beds, should be forbidden during the close time which is in force for native oysters. Your Committee are unable to see that such a prohibition would in any way assist the restoration of British beds; nor do they believe that the sale of these foreign oysters leads to an unlawful sale of native oysters during the close time; while, on the other hand, to prohibit the sale of these foreign oysters would take away employment from a large body of men, and would deprive a certain class of the community of a cheap luxury, which they seem to appreciate during the summer months. Your Committee cannot, therefore, recommend any alteration of the present law under this head.

Close time for
herrings.

From Scotland have come requests for the recommendation of a close time for herrings, varying in season in various localities. It is not pretended that this close time is required in the interest of the supply of herrings, which, it is admitted, has not suffered in bulk from any operations of the fishermen. The reasons on which the demand is based are rather to prevent the curing of the smaller or under-sized class of herring, which are not most suited for curing purposes; and in order that something may be done to maintain the prices of cured herring at an even rate, or indeed, to keep up the price of herrings. Great differences of opinion exist as to the desirability of such a close season amongst curers and fishermen in different districts.

Your Committee do not think that the institution of a close season can be justified except to meet a pressing necessity for the protection of the particular fish to which the close time is to apply, and they do not therefore recommend any alteration of the law in this respect.

Seine nets
for herrings ;
alleged damage
off coast of
Ayrshire.

Serious complaint was brought before your Committee of the damage which has, since 1878, been caused by the use of seine nets for catching herrings on the Ballantrae banks, off the coast of Ayrshire. It is asserted that this practice both serves to disperse the shoals of herring which frequent those banks in the summer, and also greatly damages the trammel nets used by the local fishermen. The question is one in regard to which it is difficult for your Committee, on the evidence laid before them, to come to any definite conclusion. But it would appear to your Committee that this is a subject which should fall within the province of a local district sea fishery committee, and that the making of regulations to deal with such matters, as they arise from time to time, will naturally be entrusted to district sea fishery committees when constituted.

Harbour
accommodation
in Scotland.

The necessity for improved harbour accommodation in Scotland has also been urged on your Committee.

For many years the Scottish Fishery Board have had placed at their disposal for harbour works a small annual sum. The result of the expenditure of these moneys has not been such as to cause much satisfaction at the manner in which they have been expended. Your Committee think that it would be well, for the future, that the Scottish Fishery Board should be allowed to apply any funds with which they may be entrusted for purposes of harbour improvement, as a security for loans, to be made by the Public Works Loans Board to harbours which may be approved both by that Board and by the Scottish Fishery Board.

Fishery Har-
bour improve-
ments in
England and
Ireland.

Your Committee are of opinion that when Fishery Boards are constituted in England and Ireland, the question of improvement to fishery harbours in those countries should not be lost sight of, and that these boards should, for the purposes of harbour improvement, be provided with funds at least on a similar scale and invested with similar powers to those enjoyed by the Scottish Fishery Board.

Facilities for
transit of fish
to centres of
population ;
telegraphic
communica-
tion.

The importance throughout the United Kingdom of greater facilities of transit for fish from outlying districts to centres of population, and for telegraphic communication between those centres and the outlying districts, has been made very apparent. Your Committee strongly urge that these questions should be favourably considered by the Board of Trade and other Departments of the Government before whom they may from

time

time to time be brought, and would especially insist that powers be given to the Post Office to extend telegraphic facilities where it is desirable, on easier terms than can under existing arrangements be granted.

But little evidence has been offered to your Committee from Ireland, doubtless Irish evidence. owing to the season of the year and the inconveniences and difficulties which are involved by the attendance of Irish witnesses at Westminster.

Your Committee greatly regret that owing to the illness of Sir Thomas Brady, they lost the advantage of the important evidence expected from that gentleman.

The special complaint which comes from the Claddagh fishermen against the trawlers in Galway Bay seems to be one of the disputes arising from the differences occurring between different classes of fishermen fishing on the same ground. Your Committee are of opinion that some regulations might be devised by the Irish Fishery Inspectors, which would enable the Claddagh fishermen and the Galway trawlers to carry on their respective methods of fishing with mutual good feeling, and without interfering with one another. For instance, trawling might be prohibited within a certain area of Galway Bay, say within a line drawn from west to east, from Castle Tully upon the Connemara coast to Ballylee Point upon the coast of Clare.

From the evidence of Mr. Green, one of the Irish Fishery Inspectors, there does not seem to be any ground for believing that there is any general deterioration or depletion of Irish fisheries. The control of the Irish fisheries lies in the hands of three appointed fishery inspectors, who have large powers in the way of making bye-laws, subject to ratification by the Irish Privy Council. Your Committee believe that in Ireland also it would be desirable that the authority to regulate Irish fisheries should, as in England and in Scotland, be a Board into which a considerable representative element should enter.

Condition of
Irish Fisheries
and proposed
Irish Fishery
Board.

17 August 1893.

PROCEEDINGS OF THE COMMITTEE.

Thursday, 20th April 1893.

MEMBERS PRESENT :

Mr. Marjoribanks.
Mr. Heneage.
Mr. Pinkerton.
Mr. Kearley.
Mr. Buchanan.
Colonel Cotton-Jodrell.

Major Jones.
Commander Bethell.
Mr. Robert Price.
Mr. Renshaw.
Mr. Mallock.

Mr. MARJORIBANKS was called to the Chair.

[Adjourned till Tuesday, 2nd May, at Twelve o'clock.]

Tuesday, 2nd May 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Buchanan.
Mr. Pinkerton.
Mr. Heneage.
Sir Albert Rollit.
Colonel Cotton-Jodrell.
Commander Bethell.

Mr. Robert Price.
Mr. Kearley.
Dr. Clark.
Mr. Furness.
Mr. Harry Foster.

Mr. J. Wrench Towse and Mr. George Alward were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 4th May 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Heneage.
Mr. Buchanan.
Mr. Pinkerton.
Colonel Cotton-Jodrell.
Mr. Robert Price.
Major Jones.

Sir Albert Rollit.
Mr. Furness.
Mr. Renshaw.
Dr. Clark.
Lord George Hamilton.

Mr. J. Wrench Towse was further examined.

Mr. Henry Toozes, Mr. Joseph H. Barber, Mr. Charles Jeffs, Mr. Richard Simpson, Mr. Richard Roach, and Mr. Christopher Pickering, were examined.

Mr. George Alward, was further examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 9th May 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Mallock.
Mr. Renshaw.
Mr. Pinkerton.
Sir Albert Rollit.
Mr. Buchanan.
Commander Bethell.

Mr. Kearley..
Colonel Cotton-Jodrell.
Dr. Tanner.
Mr. Robert Price.
Mr. Harry Foster.

Mr. W. J. Wallis, Mr. William Thos. Lovell, Mr. George Tampen, Mr. William C. Normington, Mr. John Little, and Mr. W. J. Saunders, were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 11th May 1893.

MEMBERS PRESENT :

Mr. HENEAGE in the Chair.

Mr. Buchanan.
Dr. Tanner.
Mr. Harry Foster.
Dr. Clark.
Major Jones.
Mr. Mallock.
Mr. Kearley.

Mr. Furness.
Commander Bethell.
Mr. Robert Price.
Lord George Hamilton.
Mr. Renshaw.
Colonel Cotton-Jodrell.
Mr. Marjoribanks.

Mr. John Hame, Mr. William Caseley, Mr. Joseph Murrell, and Mr. Edward Jex were examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 16th May 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Heneage.
Mr. Mallock.
Colonel Cotton-Jodrell.
Mr. Robert Price.
Major Jones.

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Sir Albert Rollit.
Mr. Harry Foster.

Mr. John Fell, Mr. Robert A. Dawson, and Mr. Arthur D. Berrington were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 18th May 1893.

MEMBERS PRESENT:

Mr. MARJORIBANKS in the Chair.

Mr. Mallock.
Major Jones.
Mr. Robert Price.
Colonel Cotton-Jodrell.
Mr. Buchanan.

Commander Bethell.
Mr. Kearley.
Sir Albert Rollit.
Dr. Tanner.
Lord George Hamilton.

Captain Absalom Anderson, Mr. George Oatley, Captain Austin, Mr. Joseph Edward Richardson, Mr. Charles Petrie, and Mr. Sidney Johnson were examined.

[Adjourned till Thursday, 1st June, at One o'clock.]

Thursday, 1st June 1893.

MEMBERS PRESENT:

Mr. MARJORIBANKS in the Chair.

Dr. Clark.
Mr. Renshaw.
Mr. Pinkerton.
Colonel Cotton-Jodrell.
Mr. Buchanan.
Mr. Mallock.

Commander Bethell.
Mr. Kearley.
Major Jones.
Mr. Harry Foster.
Lord George Hamilton.

Mr. Arthur D. Berrington further examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 6th June 1893.

MEMBERS PRESENT:

Mr. MARJORIBANKS in the Chair.

Mr. Buchanan.
Commander Bethell.
Mr. Robert Price.
Mr. Renshaw.
Lord George Hamilton.
Colonel Cotton-Jodrell.
Mr. Furness.

Mr. Kearley.
Major Jones.
Dr. Clark.
Mr. Heneage.
Sir Albert Rollit.
Mr. Harry Foster.
Dr. Tanner.

Mr. Peter Esslemont and Professor William C. McIntosh were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 8th June 1893.

MEMBERS PRESENT:

Mr. MARJORIBANKS in the Chair.

Colonel Cotton-Jodrell.
Major Jones.
Commander Bethell.
Mr. Buchanan.
Mr. Robert Price.
Mr. Pinkerton.

Dr. Clark.
Mr. Renshaw.
Mr. Heneage.
Mr. Kearley.
Dr. Tanner.
Mr. Harry Foster.

Professor William C. McIntosh was further examined; Professor Wemyss Fulton was examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 13th June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Robert Price.
Commander Bethell.
Mr. Pinkerton.
Mr. Buchanan.
Colonel Cotton-Jodrell.

Major Jones.
Dr. Clark.
Mr. Heneage.
Sir Albert Rollit.

Professor *Ray Lankester*, Professor *Günther*, and Mr. *Ernest W. L. Holt* were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 15th June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Major Jones.
Commander Bethell.
Colonel Cotton-Jodrell.
Mr. Furness.
Mr. Buchanan.
Mr. Mallock.

Dr. Clark.
Mr. Kearley.
Mr. Robert Price.
Mr. Harry Foster.
Sir Albert Rollit.
Mr. Renshaw.

Mr. *Joseph Thomas Cunningham*, Mr. *Gunder Dannevig*, Mr. *William L. Calderwood*, and Professor *W. A. Herdman* were examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 20th June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Major Jones.
Commander Bethell.
Mr. Renshaw.
Mr. Buchanan.
Mr. Mallock.

Mr. Heneage.
Mr. Harry Foster.
Dr. Clark.
Mr. Pinkerton.

Lord *Montagu of Beaulieu* (attending by permission of the House of Lords), Mr. *William Spurgeon*, and Mr. *John Swan* were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 22nd June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Heneage.
Major Jones.
Mr. Mallock.
Mr. Buchanan.
Mr. Renshaw.
Mr. Pinkerton.

Mr. Kearley.
Dr. Tanner.
Mr. Harry Foster.
Sir Albert Rollit.
Dr. Clark.

Mr. *Joseph S. Dyer*, Mr. *William Scott*, Mr. *Samuel Moody*, Mr. *John Thomas Exton*, Mr. *Thomas Hatton*, and Mr. *Tubal Cain Taylor* were examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 27th June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Sir Albert Rollit.
Mr. Robert Price.
Commander Bethell.
Colonel Cotton-Jodrell.
Mr. Renshaw.
Major Jones.

Mr. Buchanan.
Mr. Pinkerton.
Dr. Clark.
Mr. Harry Foster.
Dr. Tanner.

Mr. Robert Balls, Mr. William Prentice, Mr. John Wright, Mr. Lawrence Abram, Mr. Archibald Maconochie, and Mr. Frederick Aflalo were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 29th June 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Colonel Cotton-Jodrell.
Major Jones.
Mr. Pinkerton.

Mr. Buchanan.
Commander Bethell.

Mr. George Leek, Mr. M. A. Lynch, and Mr. A. H. Singe were examined.

[Adjourned till Tuesday, 11th July, at Twelve o'clock.]

Tuesday, 11th July 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Commander Bethell.
Major Jones.
Dr. Clark.
Mr. Robert Price.

Mr. Pinkerton.
Mr. Renshaw.
Mr. Buchanan.

Rev. W. S. Green was examined ; Mr. Arthur D. Berrington was further examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 13th July 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Commander Bethell.
Mr. Buchanan.
Mr. Robert Price.
Mr. Kearley.
Dr. Clark.

Mr. Mallock.
Mr. Pinkerton.
Major Jones.
Dr. Tanner.
Mr. Renshaw.

Mr. John Freeland, Mr. W. Pyper, Mr. Robert Crawford, Mr. George Sheeder and Mr. Peter Parkinson were examined.

Mr. Arthur D. Berrington was further examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 18th July 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Colonel Cotton-Jodrell.
Mr. Buchanan.
Commander Bethell.
Mr. Pinkerton.

Mr. Heneage.
Major Jones.
Mr. Renshaw.
Mr. Harry Foster.

Mr. P. F. McKenna, Mr. John D. McNaughton, Mr. James Bruce, and Mr. Alexander Duthie were examined.

[Adjourned till Thursday next, at Twelve o'clock.]

Thursday, 20th July 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Commander Bethell.
Mr. Renshaw.
Mr. Robert Price.
Mr. Buchanan.

Colonel Cotton-Jodrell.
Mr. Pinkerton.
Mr. Harry Foster.
Dr. Clark.

Mr. Hugh Munn, Mr. Charles Dunnett, Mr. James Macadie, Mr. G. M. Sutherland, and Mr. John Mitchell, were examined.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 25th July 1893.

MEMBERS PRESENT :

Mr. MARJORIBANKS in the Chair.

Mr. Mallock.
Mr. Renshaw.
Commander Bethell.
Colonel Cotton-Jodrell.
Mr. F. Kearley.

Mr. Pinkerton.
Mr. Robert Price.
Mr. Buchanan.
Major Jones.
Lord George Hamilton.

Mr. J. Scott Montagu, a Member of the House, Mr. William Croucher, Mr. W. H. Williams, Mr. James Tall, Mr. James Holbry, and Mr. Joseph Kent were examined.

Room cleared, Committee deliberated.

[Adjourned till Tuesday, the 15th of August, at Twelve o'clock.]

Tuesday, 15th August 1893.

MEMBERS PRESENT:

Mr. MARJORIBANKS in the Chair.

Mr. Renshaw.
Lord George Hamilton.
Mr. Heneage.
Mr. Buchanan.
Commander Bethell
Mr. Mallock.

Dr. Clark.
Sir Albert Rollit.
Mr. Harry Foster.
Dr. Tanner.
Colonel Cotton-Jodrell

Committee deliberated.

DRAFT REPORT, brought up and read the First time, as follows:—

"1. YOUR Committee have held 20 sittings for the purpose of taking evidence, and have endeavoured to obtain, as witnesses, representative men of all the different classes interested in the sea fisheries from all parts of the Kingdom.

Objection to
inquiry by
Select Com-
mittee.

"2. They desire, however, to place it on record that a Committee of the House of Commons is not an altogether satisfactory tribunal to take evidence with regard to the grievances and wants of fishermen, so far as the evidence of the fishermen themselves is concerned. This is partly on account of the fact that the time at which Parliamentary Committees sit is exactly that at which fishery operations are carried on most conveniently, and with the greatest amount of success; and partly because a Parliamentary Committee necessarily requires all witnesses to attend at Westminster,—a source both of expense in the conduct of the inquiry, and of inconvenience to the fishermen themselves. Your Committee would therefore suggest that, if further information should appear to be desirable, it might be well that this inquiry should be supplemented by the appointment of small Departmental Committees, which, by visiting various fishing centres around the coast, would give full scope to fishermen to bring forward any grievances which they may have.

Value of
statistics and
necessity of
carefully
conducted
observations.

"3. Your Committee have, however, had an advantage over any previous fishery inquiry in the fact that they have had laid before them the statistics which have of recent years been collected by the Board of Trade, and the statistics compiled by the officers of the Scottish Fishery Board; and they have also had the evidence founded on the observations of the scientific experts employed by the Marine Biological Association, and by the Scottish Fishery Board. Indeed, it may be almost said that this is the first fishery inquiry in which the more important complaints have been founded, not merely on the statements and the ideas of rival classes of fishermen, but upon facts and statistics. Complaints have generally been made that the statistics are not so accurate or so complete as they might be, and especially that they do not indicate the particular fishing grounds on which the fish are caught.

"The comparative success of our fisheries in any given place, or in any given year, depends so much on conditions of weather and of atmosphere, on the movements or migration of fishes, and the supply of the natural food of the various kinds of fishes, that it is very difficult, except after a careful and complete examination of the circumstances under which the fisheries have been conducted for a number of years, to arrive at any true conclusion as to the reasons of their comparative success or failure in any given year, or whether there has been any real falling off in the fish supply in a particular district, or what the reasons for such a falling off may be, if it has occurred. Your Committee are strongly of opinion that any steps which may be taken to increase the trustworthy character and the fulness of official statistics would amply repay the expenditure which may be necessary to ensure the improvement.

Herring
fisheries.

"4. With regard to the more important fisheries carried on by British fishermen from British ports, your Committee would report that, so far as the herring fisheries are concerned, there is no indication of any falling off in the number of herrings to be found off our coasts; and with the one exception of the herring fishing at Howth, in Ireland, no allegation has even been made of any permanent depletion having occurred with regard to this most important fishery.

Other round
fish: cod,
haddock.

"5. With regard to other round fish, amongst the most important of which are the cod and the haddock, your Committee have no evidence that there has been any important diminution of their numbers; nor has it been suggested to them that any special legislative step should be taken with regard to these fish.

Flat fish:
soles, plaice.

"6. When, however, we come to the large class of flat fish, the circumstances differ. Off the south coast of England, the evidence seems to show with regard to these fish also that there has been little or no falling off in their size or abundance; but when we turn to the great fishing grounds of the North Sea, if your Committee is to rely on the evidence which has been laid before them by all persons interested in the fisheries, whether trawlers or linesmen,

whether

whether smack owners or fishermen, whether scientific experts or statisticians, there seems to be no doubt that a considerable diminution has occurred amongst the more valuable classes of flat fish, especially among soles and plaice. It is true that there will not be found a great falling off in the bulk of these fish landed on the east coast. But the appliances for catching them have of recent years been greatly increased in size and efficiency, and the fishing grounds have been largely extended in area, trawlers going as far as the coast of Iceland to the north, and to the Portuguese coast in the south. The great falling off too in the size of the flat fish caught on the older fishing grounds in the North Sea is also a matter of universal observation. An immense number of these smaller sized fish are caught on the shallow, sandy grounds on the east side of the North Sea, off the Dutch and German coasts.

"7. The principal remedy which has been suggested to your Committee for this state of things is the enactment of a law forbidding the landing and sale of flat fish below a certain limit of size; and a principal reason given in support of this proposal is a belief that, by the enforcement of a size limit with regard to sale and landing, trawlers would avoid those fishing grounds on which such small fish are mostly captured, owing to the fact that it would not be worth their while to take fish which it would be impossible for them to sell.

"The prohibition of the capture of these fish is not suggested, and, indeed, is admitted on all hands to be impossible.

"Size limits have already been adopted by Belgium, Denmark, and France; though, in the case of these countries, the limit is a very small one, namely, in the case of Belgium, for plaice 7·2 inches, for soles 7·2 inches, for turbot 10 inches, for brill 10 inches, from the point of the nose to the tip of the tail. In the case of Denmark, 8 inches for plaice, and 8 inches for turbot, from the point of the nose to the root of the tail. In the case of France, for plaice 5½ inches, for sole 5½ inches, from eye to root of tail.

"Two limits of size have been suggested to your Committee for such an enactment; one by the National Sea Fisheries Protection Association, which is, for brill 12 inches, for lemon soles 11 inches, for plaice 10 inches, for soles 10 inches, and for turbot 12 inches: the second, somewhat higher, by the scientific experts of the Marine Biological Association, founded on the sizes at which the various fishes come to sexual maturity, which, so far as the North Sea is concerned, appear to be 17 inches for plaice, 12 inches for soles, 18 inches for turbot, 15 inches for brill, and 12 inches for lemon soles. These experts do not, however, recommend that quite so high a limit as that of sexual maturity should be adopted.

"8. Your Committee do not believe that it would be possible to adopt either of the limits thus recommended to them; and they consider that, while it might be desirable to forbid the sale of small flat fish, the adoption of the sizes suggested would involve great hardship to many of the poorer fishermen who fish near the shore in the smaller class of boats.

"They are of opinion that the size limit, below which the sale of small flat fish should be prohibited, should approximate to that already adopted by foreign countries; and they would suggest a limit of eight inches for soles, plaice, turbot, and brill. They also consider that a strong effort should be made to secure the adoption of uniform regulations for limits of size and other matters by all the nations interested in the North Sea Fisheries.

"9. In this enquiry, as in former fishery enquiries, the fact has been constantly brought out, that one of the chief problems to be solved in fishery legislation is the method by which various classes of fishermen, fishing on the same ground, can be kept from interfering with each other's operations, and injuring each other's gear. Regulations are made from time to time for this purpose, but difficulties arise as to how those regulations are to be carried out, from the want of a proper body, in the shape of an efficient sea police, to enforce them.

"10. Your Committee are sensible of the difficulties of making international regulations, but are nevertheless of opinion that the best method for effectively governing the operations of the various classes of fishermen, and, at the same time, for securing, so far as it may be found possible, the proper protection of spawning and immature fish, would be to throw the responsibility of these duties, so far as the waters immediately adjacent to the various countries are concerned, on those various countries; that, for the effective realisation of this object, the present territorial limit of three miles is insufficient, and that, for fishery purposes alone, this limit should be extended, provided such extension can be effected upon an international basis, and with due regard to the rights and interests of all nations. Your Committee would earnestly recommend that a proposition on these lines should be submitted to an international conference of the powers who border on the North Sea.

"11. The question naturally arises at this point, to what authorities in British waters the care and regulation of sea fisheries should be entrusted; whether area be extended, or within the present restricted territorial limit.

"Your Committee would recall the fact that the Trawling Commission, in their Report in 1855, recommended the establishment of a central authority to supervise and control the fisheries of Great Britain, if not of the United Kingdom; or that, in the meantime, extended powers should be given to the Scottish Fishery Board; and that a similar board, with similar powers, should be created for England. They further recommended, that to these bodies there should be granted the necessary sums of money for the purpose of conducting scientific experiments, and for collecting fishery statistics; and that adequate arrangements should be made for the establishment and maintenance of an efficient sea police, under the control of the fishery authorities so constituted.

Size limits.

Suggested size limits impracticable; a smaller limit proposed by Committee.

Differences between various classes of fishermen; injury to gear, &c.; defective sea police.

International regulations difficult; extension of territorial limit proposed.

Fishery authorities in British waters; defects of existing system.

" Since the date of this Report, extended powers have been granted to the Scottish Fishery Board, and district sea fishery committees have been established in England. At the present moment, therefore, while in England there are district sea fishery committees, there is no fishery board; in Scotland there is a fishery board, and there are no district sea fishery committees. Furthermore, the district sea fisheries committees in England, and the fishery board in Scotland, both labour under one and the same disadvantage, that of being without any directly elected representative element.

Proposed
constitution
of fishery
authorities.

" 12. Your Committee would strongly urge that measures should be at once taken to introduce such a direct representative element into the English district sea fishery committees, and that an English Sea Fishery Board should be established, in its turn, largely representative of the district sea fishery committees. Similarly, in Scotland, that directly representative district sea fishery committees should be instituted, and that the Scottish Fishery Board should be largely representative of the Scottish district sea fishery committees.

Powers pro-
posed to be
entrusted to
fishery autho-
rities.

" 13. Your Committee would entrust to these authorities, jointly, the care and regulation of all British sea fisheries, and would recommend that they should be supplied with adequate funds to collect statistics, to carry on the necessary scientific observations and investigations, and to keep up an efficient sea police to enforce the regulations made by them.

Sea Police.

" 14. Up to the present time, such sea police as has been in existence has been supplied by special cruisers, detached by the Admiralty for this service. This system has not in all respects proved adequate or satisfactory; and, so far, at any rate, as exclusively British waters are concerned, your Committee believe that these cruisers should be supplemented by a special force, organised by, and under, the fishery authorities themselves, who should be provided with a number of fast steam vessels of a class similar to the newest examples of steam trawlers. The Lancashire Sea Fishery Committee have already set an example in this direction, by the purchase and equipment of such a vessel, which cost about 5,000*l*. These vessels, besides being used for police work, would also be utilized for the purpose of scientific observation and experiment.

Oysters;
English beds.

" 15. Evidence of considerable interest was given to your Committee with regard to the English oyster fisheries, which proves, without possibility of doubt, that the depletion of English oyster beds has been extensive. The reason of this depletion, your Committee are inclined to believe, is mainly to be found in repeated and continued failures of the spatting seasons. Your Committee does not feel competent to offer any opinion as to how this unfortunate state of things can best be remedied, but they consider that it is a matter worthy of further enquiry, with the view of enabling the fishery authorities of Great Britain to deal with the subject at an early date.

Sale of foreign
oysters during
close time for
natives.

" 16. It was strongly urged upon your Committee that they should recommend that the sale of foreign oysters brought to England, and relaid on British beds, should be forbidden during the close time which is in force for native oysters. Your Committee are unable to see that such a prohibition would in any way assist the restoration of British beds; nor do they believe that the sale of these foreign oysters leads to an unlawful sale of native oysters during the close time; while, on the other hand, to prohibit the sale of these foreign oysters would take away employment from a large body of men, and would deprive a certain class of the community of a cheap luxury, which they seem to appreciate during the summer months. Your Committee cannot, therefore, recommend any alteration of the present law under this head.

Close time for
herrings.

" 17. From Scotland have come requests for the recommendation of a close time for herrings, varying in season in various localities. It is not pretended that this close time is required in the interest of the supply of herrings, which, it is admitted, has not suffered in bulk from any operations of the fishermen. The reasons on which the demand is based are rather to prevent the curing of the smaller or under-sized class of herring, which are not most suited for curing purposes; and in order that something may be done to maintain the prices of cured herring at an even rate, or indeed, to keep up the price of herrings. Great differences of opinion exist as to the desirability of such a close season amongst curers and fishermen in different districts.

" 18. Your Committee do not think that the institution of a close season can be justified except to meet a pressing necessity for the protection of the particular fish to which the close time is to apply, and they do not therefore recommend any alteration of the law in this respect.

Seine nets
for herrings;
alleged
damage off
coast of
Ayrshire.

" 19. Serious complaint was brought before your Committee of the damage which has, since 1878, been caused by the use of seine nets for catching herrings on the Ballantrae banks, off the coast of Ayrshire. It is asserted that this practice both serves to disperse the shoals of herring which frequent those banks in the summer, and also greatly damages the trammel nets used by the local fishermen. The question is one in regard to which it is difficult for your Committee, on the evidence laid before them, to come to any definite conclusion. But it would appear to your Committee that this is a subject which should fall within the province of a local district sea fishery committee, and that the making of regulations to deal with such matters, as they arise from time to time, will naturally be entrusted to district sea fishery committees when constituted.

Harbour
accommoda-
tion in
Scotland.

" 20. The necessity for improved harbour accommodation in Scotland has also been urged on your Committee.

" For

"For many years the Scottish Fishery Board have had placed at their disposal for harbour works a small annual sum. The result of the expenditure of these moneys has not been such as to cause much satisfaction at the manner in which they have been expended. Your Committee think that it would be well, for the future, that the Scottish Fishery Board should be allowed to apply any funds with which they may be entrusted for purposes of harbour improvement, as a security for loans, to be made by the Public Works Loans Board to harbours which may be approved both by that Board and by the Scottish Fishery Board.

"21. Your Committee are of opinion that when Fishery Boards are constituted in England and Ireland, the question of improvement to fishery harbours in those countries should not be lost sight of, and that these boards should, for the purposes of harbour improvement, be provided with funds at least on a similar scale and invested with similar powers to those enjoyed by the Scottish Fishery Board.

Fishery Harbour improvements in England and Ireland.

"22. The importance throughout the United Kingdom of greater facilities of transit for fish from outlying districts to centres of population, and for telegraphic communication between those centres and the outlying districts, has been made very apparent to your Committee; and they desire to express the hope that this question will not be lost sight of by those Departments of the Government (and especially the Post Office) before whom the question may from time to time be brought.

Facilities for transit of fish to centres of population; telegraphic communication.

"23. But little evidence has been offered to your Committee from Ireland, doubtless owing to the season of the year and the inconveniences and difficulties which are involved by the attendance of Irish witnesses at Westminster.

Irish evidence.

"Your Committee greatly regret that owing to the illness of Sir Thomas Brady they lost the advantage of the important evidence expected from that gentleman.

"The special complaint which comes from the Claddagh fishermen against the trawlers in Galway Bay seems to be one of the disputes arising from the differences occurring between different classes of fishermen fishing on the same ground. Your Committee are of opinion that some regulations might be devised by the Irish Fishery inspectors, which would enable the Claddagh fishermen and the Galway trawlers to carry on their respective methods of fishing with mutual good feeling, and without interfering with one another.

"24. From the evidence of Mr. Green, one of the Irish Fishery inspectors, there does not seem to be any ground for believing that there is any general deterioration or depletion of Irish fisheries. The control of the Irish fisheries lies in the hands of three appointed fishery inspectors, who have large powers in the way of making bye-laws, subject to ratification by the Irish Privy Council. Your Committee believe that in Ireland also it would be desirable that the authority to regulate Irish fisheries should, as in England and Scotland, be a board into which a considerable representative element should enter."

Condition of Irish Fisheries and proposed Irish Fishery Board.

Question, That the Draft Report, proposed by the Chairman, be read a Second time, paragraph by paragraph.—The Committee divided:

Ayes, 8.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Lord George Hamilton.
Mr. Heneage.
Mr. Mallock.
Mr. Renshaw.
Sir Albert Rollit.

Noes, 3.
Commander Bethell.
Mr. Harry Foster.
Dr. Tanner.

[Adjourned till Thursday, at Twelve o'clock.]

Thursday, 17th August 1893.

MEMBERS PRESENT:

MR. MARJORIBANKS in the Chair.

Mr. Mallock.
Commander Bethell.
Mr. Buchanan.
Mr. Pinkerton.
Dr. Clark.
Mr. Renshaw.

Dr. Tanner.
Sir Albert Rollit.
Mr. Robert Price.
Mr. Heneage.
Lord George Hamilton.

Paragraph 1, agreed to.

Paragraph 2, amended, and agreed to.
0.93.

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Paragraphs

Paragraphs 3 and 4, *agreed to*.

Paragraph 5.—Amendment proposed in line 1, to leave out the words “with regard to other round fish, amongst the most important of which are the cod and the haddock”—(Mr. *Buchanan*).—Question, That the words proposed to be left out stand part of the paragraph, put.—The Committee divided:

Ayes, 5.
Commander Bethell.
Mr. Heneage.
Mr. Mallock.
Mr. Renshaw.
Sir Albert Rollit.

Noes, 4.
Mr. Buchanan.
Dr. Clark.
Mr. Pinkerton.
Mr. Robert Price.

Another Amendment proposed, in line 2, after the word “haddock” to insert the words “though local scarcities in certain places off the coast of Scotland are stated to have been caused by the operation of steam trawlers”—(The *Chairman*).—Question, That those words be there inserted,—put, and *agreed to*.

Another Amendment made.—Question put, That the paragraph, as amended, stand part of the Report.—The Committee divided:

Ayes, 8.
Commander Bethell.
Lord George Hamilton.
Mr. Heneage.
Mr. Mallock.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.

Noes, 2.
Mr. Buchanan.
Dr. Clark.

Paragraph 6.—Amendments made.

Another Amendment proposed, in line 8, after the word “plaice,” to insert the words “and that this diminution must be attributed to over fishing by trawlers in certain localities”—(The *Chairman*).—Question proposed, That those words be there inserted.—Amendment proposed to the proposed Amendment to leave out the words “in certain localities”—(Mr. *Buchanan*).—Question, That the words “in certain localities” stand part of the proposed Amendment.—The Committee divided:

Ayes, 8.
Commander Bethell.
Lord George Hamilton.
Mr. Heneage.
Mr. Mallock.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.

Noes, 2.
Mr. Buchanan.
Dr. Clark.

Question, That the proposed words be there inserted, put and *agreed to*.

Paragraph 6, as amended, *agreed to*.

Paragraph 7, *agreed to*.

Paragraph 8.—Amendments made.

Another Amendment proposed, in line 2, after the words “forbid the,” to insert the words “landing or”—(Sir *A. Rollit*).—Question put, That those words be there inserted.—The Committee divided:

Ayes, 3.
Commander Bethell.
Mr. Heneage.
Sir Albert Rollit.

Noes, 7.
Mr. Buchanan.
Dr. Clark.
Lord George Hamilton.
Mr. Mallock.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.

Another

Another Amendment proposed, in line 2, after the words "adoption of," to leave out the word "the," and insert the words "any size limit"—(Mr. Mallock).—Question put, That the word "the" stand part of the paragraph.—The Committee divided :

Ayes, 7.
 Commander Bethell.
 Dr. Clark.
 Lord George Hamilton.
 Mr. Heneage.
 Mr. Pinkerton.
 Mr. Renshaw.
 Sir Albert Rollit.

Noes, 3.
 Mr. Buchanan.
 Mr. Mallock.
 Mr. Robert Price.

Another Amendment proposed, in line 4, after the word "boats," to insert the words "and the smaller limit in use in foreign countries would be of no practical advantage"—(Commander Bethell).—Question put, That those words be there inserted.—The Committee divided :

Ayes, 1.
 Commander Bethell.

Noes, 10.
 Mr. Buchanan.
 Dr. Clark.
 Lord George Hamilton.
 Mr. Heneage.
 Mr. Mallock.
 Mr. Pinkerton.
 Mr. Robert Price.
 Mr. Renshaw.
 Sir Albert Rollit.
 Dr. Tanner.

Another Amendment made.

Another Amendment proposed, in line 7, after the word "plaice," to insert the words "and ten inches for"—(Mr. Heneage).—Question, That those words be there inserted,—put, and *agreed to*.

Question, That the paragraph, as amended, stand part of the Report,—put, and *agreed to*.

Paragraph 9, *agreed to*.

Paragraph 10.—Amendment proposed, in line 9, to leave out the words "provided such extension can be effected upon an international basis, and with due regard to the rights and interests of all nations."—(Mr. Mallock).—Question put, That the words proposed be left out stand part of the paragraph.—The Committee divided :

Ayes, 7.
 Commander Bethell.
 Dr. Clark.
 Mr. Heneage.
 Mr. Pinkerton.
 Mr. Renshaw.
 Sir Albert Rollit.
 Dr. Tanner.

Noes, 4.
 Mr. Buchanan.
 Lord George Hamilton.
 Mr. Mallock.
 Mr. Robert Price.

Paragraph *agreed to*.

Paragraphs 11—21, *agreed to*.

Paragraph 22, amended, and *agreed to*.

Paragraph 23.—An Amendment proposed, at the end of the paragraph, to add the words "for instance, trawling might be prohibited within a certain area of Galway Bay, say within a line drawn from West to East from Castle Tully upon the Connemara Coast to Ballylee Point upon the Coast of Clare"—(The Chairman).—Question, That those words be there added,—put, and *agreed to*.

Paragraph, as amended, *agreed to*.

Paragraph 24.—An Amendment proposed, at the end of the paragraph, to add the words "and your Committee are of opinion that in all cases fishery inspectors should be selected for their

their special and practical knowledge, and not for any other consideration"—(Dr. *Tanner*).—
Question put, That those words be there added.—The Committee divided :

Ayes, 4.
Mr. Pinkerton.
Mr. Robert Price.
Sir Albert Rollit.
Dr. Tanner.

Noes, 5.
Commander Bethell.
Mr. Buchanan.
Mr. Heneage.
Mr. Mallock.
Mr. Renshaw.

Question put, That the paragraph stand part of the Report.—The Committee divided :

Ayes, 7.
Commander Bethell.
Mr. Buchanan.
Mr. Heneage.
Mr. Mallock.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.

Noes, 2.
Mr. Pinkerton.
Dr. Tanner.

Question, That the Report be the Report of the Committee to the House,—put, and
agreed to.

Ordered, To Report, together with the Minutes of Evidence and an Appendix.

EXPENSES OF WITNESSES.

NAME OF WITNESS.	PROFESSION OR CONDITION.	From whence Summoned.	Number of Days Absent from Home under Orders of Committee.	Allowance during Absence from Home.	Expenses of Journey to London and back.	TOTAL Expenses allowed to Witness.
				£. s. d.	£. s. d.	£. s. d.
George Lowe Alward	Smack Owner and Fish Salesman.	Great Grimsby - -	2	1 10 -	2 6 4	3 16 4
Henry Toozes - -	Merchant - - -	Hull - - - -	3	2 5 -	2 11 10	4 16 10
Charles Jeffs - -	Fish and Ice Merchant	Great Grimsby - -	4	3 - -	2 12 4	5 12 4
Richard Simpson - -	Steam Trawler Owner -	Hull - - - -	4	3 - -	2 18 10	5 18 10
Richard Roach - -	Smack Owner - -	Hull - - - -	4	3 - -	2 15 10	5 15 10
Christopher Pickering	Smack Owner - -	Hull - - - -	2	1 10 -	2 12 10	4 2 10
William Crossley Nor- mington.	An Admiral of Grimsby Fishing Fleet.	Great Grimsby - -	2	1 10 -	1 17 8	3 7 8
John Little - -	Smack Owner - -	Plymouth - - -	3	2 5 -	4 1 -	6 6 -
W. J. Saunders - -	Fish Salesman - -	Brixham - - -	3	2 5 -	3 11 -	5 16 -
John Hame - -	Smack Owner - -	Lowestoft - - -	2	1 10 -	1 2 -	2 12 -
William Caseley - -	Smack Owner - -	Ramsgate - - -	1	- 15 -	- 19 -	1 7 -
John Fell - -	Chairman, Lancashire Sea Fisheries Com- mittee, J.P.	Ulverston - - -	3	3 3 -	3 17 4	7 - 4
Robert Arthur Dawson	Superintendent, Lan- cashire Sea Fisheries Committee.	Lytham - - - -	3	3 3 -	3 1 8	6 4 6
Captain Absalom Anderson.	Chairman, Whitstable Oyster Company.	Whitstable - - -	1	1 1 -	1 2 -	2 3 -
George Oatley - -	Oyster Dredgerman -	West Cowes - - -	2	1 10 -	1 1 8	2 11 8
Joseph Edward Richardson.	Ex-oyster Merchant and Mayor of Bright- lingsea.	Brightlingsea - -	1	1 1 -	1 - 6	2 1 6
Charles Petrie - -	Oyster merchant -	Liverpool - - -	2	1 10 -	3 3 3	4 13 -
Peter Easlemont - -	Chairman Scotch Fishery Board.	Edinburgh - - -	3	3 3 -	5 14 6	8 17 6
William Carmichael McIntosh.	Professor of Natural History at University of St. Andrews, Mem- ber of Scotch Fishery Board.	Edinburgh - - -	5	5 5 -	5 14 6	10 19 6
Dr. Wemyss Fulton -	Member of Scotch Fishery Board.	Edinburgh - - -	3	3 3 -	5 14 6	8 17 6
Professor Lankester -	Linnean Professor, Uni- versity of Oxford.	Oxford - - - -	1	1 1 -	1 3 6	2 4 6
Ernest W. L. Holt -	Naturalist on Staff of Marine Biological Society.	Great Grimsby - -	2	2 2 -	2 8 4	4 10 4
Joseph Thomas Can- ningham.	Assistant Naturalist, Marine Biological Society.	Plymouth - - -	2	2 2 -	3 18 -	6 - -
Gunder Dannevig -	Fish Culturist, Arendal, Norway.	Plymouth - - -	2	1 10 -	3 19 -	5 9 -
William L. Calderwood	Naturalist - - -	Plymouth - - -	2	2 2 -	3 18 -	6 - -
Professor Herdman -	Professor of Natural History, University College, Liverpool.	Liverpool - - -	2	2 2 -	2 7 8	4 9 8
William Spurgeon -	Fisherman and smack owner.	Lowestoft - - -	1	- 15 -	1 - -	1 15 -
John Swan - -	Fisherman and smack owner.	Lowestoft - - -	1	- 15 -	1 - -	1 15 -
Joseph S. Dyer - -	Fisherman and smack owner.	Brixham - - - -	2	1 10 -	2 - -	3 10 -
William Scott - -	Fisherman and boat owner.	Torquay - - - -	2	1 10 -	2 - -	3 10 -
Samuel Moody - -	Fisherman - - -	Skegness - - -	2	1 10 -	1 3 6	2 13 6
John Thomas Exton -	Fisherman - - -	Great Grimsby - -	2	1 10 -	1 6 -	2 16 -
Thomas Hatton - -	Fisherman - - -	Great Grimsby - -	2	1 10 -	1 6 -	2 16 -
Tubal Cain Taylor -	Fisherman - - -	Hull - - - -	2	1 10 -	1 10 -	3 - -
Robert Balls - -	Fisherman - - -	Great Yarmouth - -	2	1 10 -	- 16 -	2 6 -
William Prentice -	Manager of Trawling Fishing Boats.	Great Yarmouth - -	2	1 10 -	- 16 -	2 6 -
John Wright - -	Fisherman - - -	Southport, Lancashire -	2	1 10 -	1 16 -	3 6 -
Lawrence Abram - -	Fisherman - - -	Southport, Lancashire -	2	1 10 -	1 10 -	3 6 -
George Leek - -	Fish Merchant - - -	Londonderry - - -	4	3 - -	5 15 6	8 15 6
Mr. M. A. Lynch - -	Merchant, J.P. - - -	Galway - - - -	5	5 5 -	6 10 -	11 15 -
Rev. W. S. Green - -	Inspector of Irish Fisheries.	Dublin - - - -	3	3 3 -	4 10 -	7 13 -
John Freeland - -	Fisherman - - -	Torrey, Kincardineshire	3	2 5 -	2 19 -	5 4 -
Mr. W. Pyper - -	Shipowner - - -	Aberdeen - - -	3	3 3 -	5 8 6	8 11 6
Mr. Robert Crawford	Fisherman, Smack Master.	Yarmouth - - -	1	- 15 -	1 - 8	1 15 8

EXPENSES OF WITNESSES—continued.

N A M E OF W I T N E S S.	PROFESSION OR CONDITION.	From whence Summoned.	Number of Days Absent from Home under Orders of Committee.	Allowance during Absence from Home.	Expenses of Journey to London and back.	TOTAL Expenses allowed to Witness.
Mr. Peter Parkinson -	Fisherman - - -	Hull - - - -	3	2 5 -	1 17 -	4 2 -
George G. Sheeder -	Fisherman - - -	Scarborough - -	3	2 5 -	1 19 -	4 4 -
Mr. P. F. McKenna -	Solicitor - - -	Girvan - - - -	3	0 6 -	5 18 2	12 4 2
John D. McNaughton	Secretary to Fishery Association.	Buckie - - - -	3	3 3 -	4 8 4	7 11 4
Alex. Duthie - -	Fisherman - - -	Port Errol - - -	3	2 5 -	3 8 -	5 8 -
James Bruce - -	Fisherman - - -	St. Combs - - -	3	2 5 -	3 0 -	5 5 -
Hugh Munn - -	Fisherman - - -	Tiree - - - -	4	3 - -	3 17 11	6 17 11
Charles Dunnett -	Merchant - - -	Wick - - - -	3	2 5 -	9 11 9	11 16 9
James Macadie - -	Net Manufacturer -	Wick - - - -	4	4 4 -	5 16 8	10 - 8
Mr. G. M. Sutherland	Solicitor - - -	Wick - - - -	4	4 4 -	5 16 8	10 - 8
Mr. John Mitchell -	Gentleman - - -	Peterhead - - -	3	3 3 -	3 - -	6 3 -
William Croucher -	Fisherman - - -	Lymington - - -	1	- 15 -	- 16 8	1 13 8
James Tail - -	Fisherman - - -	Near Plymouth - -	3	2 5 -	2 2 4	4 7 4
Mr. W. H. Williams -	Manager of Fishery Company.	Falmouth - - -	3	3 3 -	3 10 -	6 13 -
Mr. James Holbry -	Smack owner - - -	Plymouth - - -	3	2 5 -	3 14 3	5 19 3
Mr. Joseph Kent -	Smack owner - - -	Plymouth - - -	3	2 5 -	3 14 3	5 19 3
TOTAL - - - £.						316 13 5

MINUTES OF EVIDENCE.

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MINUTES OF EVIDENCE.

Tuesday, 2nd May 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Mr. Furness.

Mr. Heneage.
Mr. Kearley.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Sir Albert Rollit.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. JOHN WRENCH TOWSE, called in; and Examined.

Sir Albert Rollit.

1. YOU are the honorary secretary of the National Sea Fisheries Protection Association, are you not?—Yes.

2. Which holds its meetings at Fishmongers' Hall, does it not?—Yes.

3. Were you appointed in the year 1888?—Yes.

4. The association was originally founded in Norwich, I believe, in 1882, was it not?—No, at Lowestoft.

5. The objects of the association are, I believe, the protection of the interests of those engaged in the sea fishing industry and the trades connected therewith?—Yes.

6. The promotion and improvement of the harbour accommodation and the consideration of all questions affecting those engaged in the industry?—Yes.

7. What is the number of members connected with your association?—One hundred and eighty-three, and 57 affiliated bodies and associations.

8. I believe affiliated bodies have been formed throughout England round the coasts?—Yes, and some in Scotland too.

9. Can you give me any estimate of the number of men connected directly and indirectly with the association and represented by the association?—Approximately about 80,000.

10. I believe that for some years past, in consequence of the quantity of immature fish landed, that you have had conferences and congresses, both national and international at the Fishmongers' Hall?—Several.

11. I will take the conference of the 13th of November 1888 of the trawl fishing industry.
0.93.

Sir Albert Rollit—continued.

Will you read the resolutions which were passed on that occasion?—" (1.) That we find a large and distressing diminution in the North Sea of soles, turbot, plaice, and all flat fish, and view with alarm the future unless some steps are immediately taken to prohibit the catching of immature fish. (2.) That the conference petition Her Majesty's Government, urging them to enter into negotiations with all Continental Governments to establish an international law to prohibit the wilful catching of immature fish, and to make it unlawful to offer such immature fish for sale."

12. I believe a very important meeting was held of the trawl fishing industry at Hull on the 30th of April 1890?—Yes.

13. Will you read the resolutions that were then passed, which you will find at the bottom of page 4 of your proof?—"That this Conference of the Trawl Fishing Industry of the East Coast, consisting of delegates from Hull, Grimsby, Yarmouth, Lowestoft, Scarboro', and Boston, having realised the enormous loss which the trade has sustained year by year through the wholesale capture and destruction of immature and inedible fish, hereby resolves that the time has come when a strong and united effort should be made to put a stop to this growing evil; and as a preliminary step in this direction it is agreed by the whole of the delegates here assembled for themselves individually and the companies, corporations, fleets, and associations they represent, to abstain during the coming summer from fishing on the grounds where immature fish are generally caught in great abundance, such grounds

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2 May 1893.]

Mr. TOWSE.

[Continued.]

Sir *Albert Rollit*—continued.

grounds being specified in the next resolution." "That the fishing grounds or nurseries where experience has found immature fish to be most prolific, and which are referred to in the foregoing resolution, shall be defined as follows: That part of the North Sea the eastern boundary of which is the German and Danish Coasts, western boundary, longitude, 7 deg. 30 min., northern boundary, latitude 56 deg., southern boundary, latitude, 53 deg. 50 min." "That the term immature fish shall, for the purpose of this conference and for the carrying out of the preceding resolutions, be interpreted to mean as follows: A lemon sole which measures less than 12 inches, a sole which measures less than 10 inches, a turbot which measures less than 12 inches, a brill which measures less than 12 inches, a plaice which measures less than 11 inches. In all cases from the end of the nose to the end of the tail." "That in the opinion of this conference it is highly necessary for the future well-being of the trade, and for the preservation of an important food supply, that Parliament should be asked to impose restrictions upon the sale and purchase of immature fish as defined by this conference; and that the delegates from the ports here represented who attend the international conference to be held in London during the summer, under the auspices of the National Sea Fisheries Protection Association, are hereby instructed to press for legislative interference of a national and international character."

14. I think similar resolutions were passed by the London Fish Trade Association?—Yes.

15. Held at Billingsgate Market on June 26th, 1890?—That was so.

16. I will not take you through those. Similar resolutions were again passed, were they not, at a meeting at Fishmongers' Hall on June 30th, 1890?—Yes.

17. Now I will take you to the following July, that is July 1891, page 9 of your proof. An international conference was held at which, I believe, representatives attended from Belgium, Denmark, France, Germany, Netherlands, Spain, and the United Kingdom, at Fishmongers' Hall, when the resolutions were adopted, which you will, perhaps, kindly read?—"That this conference considers it desirable that an official international conference of European maritime powers should be held, with the view of concluding a convention for the prohibition of the landing and sale of undersized flat fish within their respective jurisdictions. That this conference, moreover, considers it desirable that before the official conference meets, the different nations interested in the sea fisheries of European waters will collect, with as little delay as possible, sufficient information, scientific as well as statistical, with regard to the damage done by the capture of undersized fish by their fishermen. That the National Sea Fisheries Protection Association be requested to formulate a set of questions with a view to obtaining scientific and statistical information in relation to undersized fish, and forward it to each delegate, in order that he may submit it to his Government for adoption."

Sir *Albert Rollit*—continued.

18. I believe in pursuance of the last resolution you did circulate inquiries and you received replies from Hull, Aberdeen, Grimsby, Great Yarmouth, and Plymouth, a summary of which you produce?—Yes.

19. Some exception was, I think, taken by the Dutch Government?—Yes.

20. Of what nature was that, can you tell me?—Yes. The Netherlands delegate proposed to proceed as follows: "Each nation interested in the fisheries of flat-fish in the North Sea undertakes to investigate where, when, and to what extent a destruction of young fish, and especially not yet marketable flat-fish, takes place. This investigation is only performed when the other nations interested in the question are willing to execute similar researches. They are to last at least a whole year. The reports brought forth by each delegate are laid before a meeting of delegates. They contain the answers to the following questions: What should be the minimum size of the various kinds of flat-fish for market purposes? Would it be sufficient to prohibit the sale without at the same time prohibiting the capture or landing? Is it desirable to establish regulations for the size of the mesh of nets? Would it be suitable to restrict or prohibit trawling at certain periods during certain seasons or at certain areas? What form or formulation legislative interference should take? This meeting is instructed by a written report drawn up by a committee of the delegates, and the committee may be appointed by writing. The delegates instructed in the said way may deliberate as to the measures necessary for the protection of the small, not yet marketable fish (especially flat-fish). They are to try to agree with one another and subject the measures they agree upon to their respective governments. The governments are to come in negotiation with one another and decide in how far they will execute the proposed measures."

21. The Dutch Government, I believe, made some protest?—Yes.

22. Have you got that?—No; but that was so.

23. I think afterwards the scientific portion of the matter was taken up by the Marine Biological Association, and, in combination with that, you took steps to obtain information from Grimsby, and other ports, did you not?—Yes.

24. Can you tell me what regulations have been made by other nations on the subject of the catching of immature fish. Take, for instance, the Belgian Government. The Ostend Chamber of Commerce, I believe, passed a resolution; will you read that?—"That it is necessary to prohibit the sale of undersized flat fish, and power was given to the King of Belgium, in a recent law passed in that country, to carry out any restriction which his Majesty might find necessary. The following sizes are now in force, under the order of the Belgian Government."

25. I think you may put in this Table, which gives the sizes for Belgium, Denmark, and France. Will you put that in?—Yes.

The following Table was handed in:—

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Mr. Towse.

[Continued.]

Sir Albert Rollit—continued.

FISH.	Saleable Minimum (Approximate).		
	Belgium.	Denmark.	France.
Bream - - - -	- - -	- - -	5½ ins.
Ood - - - -	10 ins.	8 ins.	-
Flounder - - -	- - -	- - -	6½ ins.
Mullet - - - -	- - -	- - -	5½ ins.
Plaice - - - -	7½ ins.	8 ins.	5½ ins.
Shad - - - -	- - -	- - -	5½ ins.
Sole - - - -	7½ ins.	- - -	5½ ins.
Sturgeon - - -	- - -	- - -	5½ ins.
Turbot - - - -	10 ins.	8 ins.	-
Whiting - - - -	7½ ins.	8 ins.	-
Brill - - - -	10 ins.	-	-
Ray - - - -	10 ins.	-	-
Hallibut - - -	10 ins.	-	-
Haddock - - -	10 ins.	-	-
Dab - - - -	7½ ins.	-	-

Chairman.

26. I should like to know upon that, what powers the Belgian Government took to enforce these regulations?—I have not been informed.

27. Nor do you know whether these restrictions have been put into force actually?—No.

28. Or if the catchers of fish under these dimensions are penalised?—No.

Sir Albert Rollit.

29. A conference of the representatives of the sea fishing industry was held at Fishmongers' Hall, on February 24th, 1892, and resolutions were passed. Will you read those?—"That this conference, having regard to the disastrous consequences resulting from wholesale destruction of undersized flat fish, hereby requests the Government to take immediate action in the matter, and as a first step, to enact a law to prohibit the sale of undersized flat fish in British markets—undersized flat fish being as follows:—Brill under 12 inches in extreme length, lemon soles 11 inches, plaice 10 inches, soles 10 inches, turbot 12 inches."

30. At a general committee meeting of your association held on the 18th October 1892, it was moved, I believe by Dr. Fowler, and seconded by Mr. James Alward, "That a deputation from this association wait upon the President of the Board of Trade, for the purpose of urging Her Majesty's Government to facilitate the appointment of a Select Committee, to consider the expediency of prohibiting the landing and sale of undersized flat fish"?—That was so.

31. Did that deputation wait upon the President and did he intimate that that Committee would be granted?—Yes.

32. And afterwards was a motion made in the House and a Committee ultimately appointed?—Yes.

33. Can you say whether the feeling is that legislation should be on national or international lines?—International lines.

34. Can you give any reason for that preference?—Because if it were national it would

0.93.

Sir Albert Rollit—continued.

only affect our fishermen, and they could only land certain sized fish, whereas if it were international it would prevent foreigners from landing undersized fish for sale.

35. Even in their own countries?—Even in their own countries.

36. Does it appear to you disadvantageous that foreigners should be at liberty to fish and land fish in their own countries without any obstacle, and that English fishermen should be prevented from doing the like, or the contrary. What is the feeling of the fishermen?—Our fishermen, I should think, should have equal rights with foreign fishermen.

37. And no more?—And no more.

38. Can you give the Committee any information as to the quantity of fish landed on the English and Welsh coasts, and as to its value?—Yes. In 1886, statistics were compiled by the Board of Trade in the first annual Report of the Inspector of Sea Fisheries for England and Wales, and it was stated that the weight of fish landed on the English and Welsh coasts was 6,412,433 cwt. and valued 3,688,079*l.*, being of the average of 11*s.* 6*d.* per cwt. Then passing over the next few years and taking the statistics of 1891, it appears that the weight of fish landed was 5,966,076 cwt. and valued at 4,491,018*l.*, representing an average value of 15*s.* per cwt. I think I may remark that in the first years of the Fisheries Inspectors' statistics, full reliance cannot be placed upon them, inasmuch as great difficulties were experienced in getting in the reports from the various fishing centres.

39. Has the quantity of fish landed during each of the six years varied very greatly or not?—No, it has been fairly constant.

40. What about the value?—The value has increased by 1,197,061*l.*

Chairman.

41. I should like to ask this question. With regard to the question of value, has the increased value arisen on account of more valuable sorts of fish having been caught, or is it a general rise in the price of all fish?—I take it that it is a general rise in the price of all fish. That is so.

Sir Albert Rollit.

42. Can you particularise some species?—Soles have increased materially, and other prime fish.

43. They have exceptionally increased, have they not?—Yes.

44. Can you mention any others particularly?—Turbot, brill, and plaice of good quality.

Chairman.

45. Then the increased value does arise rather from the increase in value of certain sorts of fish than from a general increase over the whole bulk, does it?—Certainly.

Sir Albert Rollit.

46. Can you tell me whether the increase has been greater in the cases of prime or common fish?—I think I would rather leave that for some practical man to answer.

47. Can you tell the Committee this: while the quantity has remained constant, or nearly

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constant,

2 May 1893.]

Mr. TOWSE.

[Continued.]

Sir Albert Rollit—continued.

constant, what has taken place with regard to the catching power, which has been enormously increased?—It has enormously increased. The tonnage of steam-vessels, I think, in 1886, speaking from memory, was about 10,000 tons, whereas the last statistical report stated that it was 24,000.

48. I think I am correct in saying, am I not, that the last ten years has seen almost the commencement, and certainly a vast increase in the application of steam to fishing?—Undoubtedly.

49. Can you give any particular figures as to the increase?—In what way?

50. As to the number of steam-trawlers and the like during the past few years?—Yes.

51. Will you kindly do so?—In 1887 the registered steam tonnage was 10,127 tons, and the number of vessels was 275. In 1888, the number of vessels was 294, representing a tonnage of 11,575 tons. In 1889, 295 vessels, representing a tonnage of 12,580 tons. In 1890, 338 vessels, representing a tonnage of 15,206 tons; and in 1891, 459 vessels, representing a tonnage of 21,993 tons; you may say 22,000 tons.

52. Having regard to the increased catching power, to what do you attribute the fact that the quantity has remained very nearly stationary?—I rather object to the word “quantity” being used; I think it ought to be “weight,” because if you use the word “quantity” it might mean the number of fish.

53. I will take “quantity” to mean “weight;” that is the basis of the statistics?—It is owing principally to the great weight of immature fish that is caught.

Colonel Cotton-Jodrell.

54. Arising out of that, may I ask you this: is this only steam tonnage you have been quoting?—I have been only quoting steam tonnage.

55. You have not taken cognisance of sailing vessels?—No. In 1891 the number of vessels altogether was 8,063, and the total gross tonnage was 207,515 tons for England and Wales.

Sir Albert Rollit.

56. Can you tell us whether sailing tonnage has increased or decreased, or how, during the last six or eight years?—It has decreased by about 8,000 tons.

57. As an evidence of the capture of immature fish, can you speak as to the quantity which has been destroyed at Billingsgate. Am I correct in saying that in the last five years 433 tons of unsizeable, not putrid, fish have been destroyed as being unfit for food?—During the last 10 years there has been 721 tons destroyed.

58. We will take it that during the last 10 years 721 tons has been destroyed as being simply unsizeable?—Yes, or as thrown away as being of no use; discarded even by the poor.

59. That was not because it was bad or unfit for food, was it?—No.

60. I believe it was fish which was thrown out at Billingsgate by the salesmen as being unsizeable for the reason you have stated?—Yes.

61. And was wasted?—Yes.

62. And is it a fact that they would not even send from the police-courts for it, because it was

Sir Albert Rollit—continued.

not large enough for consumption?—On several occasions messages have been sent to the police-courts, and the poor have been down, and I myself have seen, notably in 1890, after a very large arrival of immature fish, poor people in the market sorting over and taking out only that which you would place upon your own table; all smaller fish they threw on one side and would not have.

63. So that practically these 700 or 800 tons could not be disposed of even as a gift?—Quite so.

64. And if I remember rightly, at the Fishmongers' Company we have had a quart bottle of soles containing a pound, in which there were 10 fish?—Yes.

65. And that fish was purchased in the open market, was it not?—Yes. I may say that in regard to the weight of immature fish, it would be more correct to multiply it by four. Those 721 tons only came under the cognisance of the officers of the Fishmongers' Company; but large quantities are taken away by purchasers, and they find on their arrival at their respective shops that they have to throw away a large quantity of the small fish. In fact, it is computed that out of every five trunks two have to be thrown away.

66. I need not ask you, but this must be, must it not, a great injury, not only to the fish trade but to the consumer in the large centres?—Undoubtedly.

67. And the remedy which the association has proposed, I think, has been to prohibit by law the capture and landing of undersized fish?—I could hardly say capture.

68. The landing and sale?—Yes, the landing and sale.

69. The landing and sale of undersized fish?—Yes.

70. And, I believe, their view has always been, has it not, that the question of size should be considered and determined by the Committee after hearing all the evidence on the subject?—Undoubtedly.

71. They have not gone further than that in their later inquiries and resolutions, have they?—No.

72. May I ask you whether there is a general and very strong feeling that some legislation, international if possible, is very desirable?—Undoubtedly. but it was thought before any legislation of an international character were to take place, legislation of a national character should be first adopted.

73. On the limited lines which I have last mentioned, that is the prohibition of the landing and sale of immature fish?—Yes.

Mr. Buchanan.

74. Does your association represent one part of England, or is it pretty well drawn from all parts?—All parts.

75. The south coast as well as the east coast?—Yes.

76. You said there were some Scotch representatives on it, did you not?—Yes.

77. Where from?—Fraserburgh, Arbroath, Westhaven, Burghhead, and Largsmouth.

78. Do you represent one form of fishing industry

2 May 1893.]

Mr. TOWSE.

[Continued.]

Mr. Buchanan—continued.

dustry more than another?—No, various questions are brought up appertaining to different classes of fish.

79. You spoke of the conferences that you held in 1888 as conferences of the Trawl Fishing industry?—That was at Hull.

80. I did not quite understand what you said with regard to the Hull conference in 1890. You came to a resolution about abstaining from fishing on certain grounds in the North Sea, did you?—The Hull trawl representatives did.

81. Was anything done with regard to that?—They did abstain.

82. For how long?—I do not know how long; about two seasons I think it was.

83. And these grounds, as I understand by the chart, were the parts most remote from the English Coast?—Yes.

84. They did not separate off any areas near the British Coast, did they?—I think it was general, but I think that is rather a question for a practical man to answer.

85. I merely wanted you to answer the question as to the limit?—Yes, I believe they did.

86. Has there been any result?—It was stated that there had been beneficial results.

87. Do you mean in securing better fish?—More mature fish.

88. I did not quite understand with regard to the sizes you mentioned. Are the same sizes laid down in Belgium, Denmark, and France?—No, they vary; some are rather smaller.

89. The three countries vary in the sizes they fix upon?—Yes.

90. As to the sizes that you gave as settled upon by your Association, are they a fourth variety of size? Do they agree with either Belgium or France?—I think they fairly agree with Belgium.

91. Anyhow there is a considerable difference of opinion as to what size should be fixed upon, is there not?—Those trawling in the North Sea are fairly agreed upon the sizes, but there certainly is a difference of opinion on the part of the representatives on the West and South-West Coasts. They consider their breeding grounds are better, and their fish are more edible at a slightly decreased size. But still I think when the resolutions were adopted the South and West Coasts agreed to accept them.

92. But still, as far as I gather from Belgium, Denmark, and France adopting different limits, and you adopting another limit with regard to the North Sea even, there is difference of opinion?—Undoubtedly. I thought you were speaking more particularly of our own fish salesmen.

93. Then with regard to the increase in the catching power, you stated that the catch was practically stationary for the last few years. Have you any figures to show, apart from the subject of immature fish, what the increase or decrease per ton of good fish that you catch is?—No.

94. Immature fish is all included, is it?—Yes, it is all included.

95. You concluded at once, as I understand, that the immature fish was the entire cause of this phenomenon, that although you have parts of 0.93.

Mr. Buchanan—continued.

the catch increasing yet the catch itself was stationary in weight?—Yes.

96. Do you attribute it exclusively to that?—I think so. I do not know what else to attribute it to.

97. Have you anything to show us whether there has been any increase or not in the catch of good fish corresponding to this great increase in the catching power?—No. You see the statistical tables and the reports give the quantity of fish landed, they do not individualize good fish as against small-sized fish.

98. With regard to the last question asked you upon the point by Sir Albert Rollit, you would be averse, I understand, to any legislation prohibiting capture?—I think it would be impossible.

99. Then would you in any way decrease the destruction of immature fish if you did not prohibit their capture?—Fishermen who were unable to land their fish would be more careful, perhaps. Having captured small-sized fish (I will not say immature, because there is a question as to the maturity) they would be more careful to return such small-sized fish than they are at present. No doubt great difficulty exists as to dealing with such fish, and as to whether or not a quantity is not destroyed by means of the trawl before they could return it.

Sir Albert Rollit.

100. May I ask this one question upon that, would they also be likely to abstain from going to neighbourhoods where that small fish is generally caught?—Undoubtedly.

Mr. Buchanan.

101. But when the trawl is brought up full of fish, do you mean to say that they would then separate them and return the immature fish?—They would be compelled to.

102. Supposing they did that, would the fish live if put back into the sea?—That is a question I cannot answer, a good deal of it might.

103. But if they did not live would you in any way prevent the destruction of fish by merely restricting the landing and sale?—I think you would, because fishermen knowing that they had a lot of immature fish would say: "It is no use our going over these grounds, because we shall be capturing immature fish, which we cannot land," and therefore they would move to other grounds where the better sized fish could be obtained.

104. Do the fishermen know sufficiently the various grounds where immature fish are more plentiful than others?—Yes.

105. They do?—Yes.

106. Then why should not they now avoid these grounds as much as possible?—Because of competition.

107. Then would it not be a better mode of saving the fish to limit the areas either by international arrangement or some other means?—No arrangement can be made internationally, or at least no arrangement can be made by themselves internationally. It must be done by convention, and if one man goes to one part and gets a good haul, others may follow, and after a while they may clear that ground. Seeing others

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[Continued.]

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others continuing, it necessarily follows by competition that everybody would endeavour to go there with a view of obtaining as much as they could as against their rivals.

108. But you propose here, do you not, that we should take steps to have an international arrangement to prevent the landing and sale of immature fish, and that that would probably do a great deal towards fostering the fish supplies of the North Sea. And what I was asking you was this: would it not also be desirable and probably more effective to take steps to arrive at an international arrangement by which these areas, which you say are well known, where the immature fish are plentiful, should be put under international restrictions in order to prevent certain modes of fishing at certain seasons of the year?—No; because I think the grounds vary in productiveness. It would be impossible to lay down any specific rules as to where you should fish and where you should not. At one time certain grounds may be depleted, and, if left unmolested, in due course they may again be replenished.

109. Quite so; and if you have an international arrangement with regard to the North Sea, that could be effected and carried out, could it not?—It would have to be a constant arrangement.

110. But there would be no more difficulty in arriving at an international arrangement on the one subject than there would be on the other, would there?—I think there is a difficulty in internationally arranging where fishermen should go for their fish. I think you must leave that almost to the common-sense of the fishermen.

111. You might just as well say you would leave it to the common-sense of the fishermen as to what sort of fish they are going to catch. I mean the difficulties as to an international arrangement are the same in one case as the other, are they not?—No. So long as fishermen and others are at liberty to land any size fish and to sell it, so long it will be landed and so long it will be sold, or so much of it as can be sold will be sold, and to prevent that and put a stop to that practice, there must be, I think, a law by which they would be heavily fined.

Dr. Clark.

112. Has there been any legislation in Belgium or Holland as to the size of fish to be brought ashore by their fishermen?—Yes, I submitted the tables to the Committee just now.

113. There have been laws passed distinctly, have there?—Yes, and the King of the Belgians has power to vary those laws.

114. Do you mean the law passed gives the Government the power to modify them according to time and requirements and so on?—Yes.

115. Has there been anything done in Holland?—I do not think so.

116. Is Belgium the only country that has adopted legislation?—The French Government have adopted sizes, but I do not think they have gone further; I do not know.

Mr. Robert Price.

117. With reference to your society, you say it is a very representative one; it is representative, I understand, of the salesmen and smack owners, that is to say steam trawlers and sailing smacks?—Yes.

118. Is it representative of the fishermen at all?—Yes, certainly.

119. It has representatives of the working fishermen, has it?—Yes.

120. Does it represent, for instance, shrimpers?—No, it does not.

121. Not long shore fishermen as they are called?—No.

122. Is there any other representative body besides yours?—There is the London Fish Trade Association.

123. That is composed of Billingsgate fishermen principally, I suppose?—Yes.

124. Is there any other?—No, I do not think so.

125. Now, with regard to these districts where the immature fish are found, I suppose they represent the probable breeding ground?—It is said so.

126. But you do not know, do you, if that is very clearly defined; that is to say, not sufficiently clearly defined to be protected as Mr. Buchanan suggested?—I think not.

127. Out of this international conference that you had, you merely got recommendations that there should be international legislation, I understand?—Yes.

128. But international legislation was not passed by any Government with the exception of the Belgian Government, was it?—No.

129. And the Belgian Government, of course, can only enforce it as to their own markets?—That is all. It was proposed at the conclusion of that international conference that there should be a further meeting after evidence and statistics had been obtained, in order that a definite conclusion should be arrived at and that the respective Governments be moved.

130. How were the delegates to this conference appointed?—By their respective Governments.

131. Were they Government delegates to your conference?—Yes.

132. You spoke about the quantity of fish tonnage, and that there has been a considerable increase of 14,000 tons in the steam tonnage and a decrease of 8,000 tons in the sailing tonnage?—Yes.

133. What difference in catching power does that make. How does the steam tonnage compare with the sailing tonnage catching power?—I think four times. The capacity of steam vessels as against sailing vessels, I think, represents about four times more.

134. What did you say was the total tonnage steam and sail?—Two hundred and seven thousand, five hundred and fifteen tons.

135. Then there has been an increase in the catching power of a little over 20 per cent. since 1886, has there not?—Yes.

136. There has been an increase of 14,000 tons in the steam tonnage, which is equivalent to 56,000 tonnage in the sailing smacks?—Yes.

137. And there has been a decrease of 8,000 in

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[Continued.]

Mr. Robert Price—continued.

in the sailing smacks leaving 48,000 tons?—Yes.

138. And 48,000 out of 207,000 is a little more than 20 per cent.?—Yes.

139. You mentioned the figures of 6,412,433 cwt. in 1886, and 5,966,076 cwt. in 1891, as the amount of fish caught; was that exceptional or does it represent a steady decrease in the catch?—A steady decrease.

140. With reference to the fish that were destroyed as unsizable at Billingsgate, were those sea-borne fish entirely. No one would pay railway freight on fish they could not sell, would they?—It was rail and sea-borne.

141. You said it was computed that two out of five trunks of fish that were sold to the retail trade in London were destroyed by the fish-mongers when they bought them, as unsizable?—Yes.

142. Who computes that; it sounds an excessively large proportion?—Several gentlemen to whom I have referred in Billingsgate market and also the retailers themselves. I do not give you those figures as from my own experience.

143. Or as official at all?—No.

144. I suppose they are impossible to arrive at really?—Yes.

145. I take it there is a good deal of the usual trade grumbling going on when they want to account for their apparently large profits. You advocate, I understand, not limiting the catch of the fish, but the landing and sale?—Yes.

146. What do you propose should be done with immature fish when caught at sea?—Thrown back.

147. Either dead or alive?—I see no other way.

148. Has not there been considerable suspicion that damage has been done to the live fish by throwing overboard dead fish?—I do not think any proof has been shown to that effect.

149. Is there not a theory to that effect?—There is a theory to that effect.

150. With regard to the fish under the size you speak of, there is a very large retail sale of fish under that size, is there not?—I do not know that there is.

151. What do you think is usually sold in fried-fish shops?—I have a memorial here from the fryers advocating that immature fish should not be landed.

152. Unsizable fish, rather, you mean, do you not?—If you will allow me I will refer to the memorial. It is signed by 1,300 people, and, in fact, I have had the last day or two applications from fryers asking to be heard before this Committee. I made reply to one in particular this morning, that I hoped the memorial I was going to lay before the Committee would be sufficient evidence, so that the Committee might be saved the trouble of calling them. This is a petition to the London Fish Trade Association:—“We, the undersigned members of the above trades, humbly beg of thee to take into consideration a great and serious grievance that is existing in our trade. That that grievance is the catching and selling of immature fish, especially flat fish. That not only is the catching of the above fish a wilful and wanton waste of human food, but a destruction of the fishing-grounds, and the ruination of
0.93.

Mr. Robert Price—continued.

our trade. That we are of the opinion that an Act of Parliament should be passed making it illegal to catch or sell immature fish. That all trawl fish, such as plaice, &c., should not measure less than twelve inches from the tip of the nose to the end of the tail. That if the grievance is not speedily put a stop to it will mean the extinction of a trade that supplies a necessary article of food to more than half the population of London, especially the poorer classes.” Here are the signatures.

153. Then you do not think there is really any sale for fish under the size you have mentioned, do you? You do not think they are bought and consumed?—They are bought, perhaps, by compulsion; what I mean is that, perhaps, they cannot do better.

154. They command a very small price, do they not?—A very small price.

155. If they command such a very small price, and a large number of them are not saleable at all, does it not seem extraordinary that fishermen go on to those grounds and fish there? There must be a very large quantity of sizeable fish there, must there not?—No, there is not such a large quantity of sizeable fish; that is the complaint of the trawl-owners. They say at the present time they are unable to make it up.

156. What do they go there for then; why do they not go to another area?—I cannot answer that satisfactorily.

Mr. Heneage.

157. You have told Sir Albert Rollit that this question has been prominently before your Association for the last 10 years, namely, from 1883 down to the present time?—Yes.

158. But that it was not till 1889 that any committee was appointed to deal with the question?—No.

159. With regard to a question asked you about your Association, in your opinion, are not all classes engaged in the fishing trade fairly represented in your Association, with the exception of the long-shore fishermen?—Yes.

160. You represent, I believe, something like 80,000 members?—That is so.

161. You told Sir Albert Rollit that 1889 was the first time the question of the means to be adopted to prevent destruction was considered, but that, I understand, was only by representatives of the east coast ports, at Hull?—Yes.

162. And those were the resolutions which they came to, which you read out?—Yes.

163. There is another association in London which you mentioned just now, the London Fish Trade Association of Fish Buyers?—Yes.

164. On 26th June 1890 following this meeting, as appears on page 6 of your proof, did not they come to a resolution on this subject?—They did.

165. Will you kindly read that resolution?—“That in the opinion of this meeting of members of the London Fish Trade Association, fish-mongers and fish traders of London generally, it is imperative, in the interest of our craft and the public, that immediate steps should be taken by Parliament with a view to impose restrictions upon the sale of immature fish, in order that the supply

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supply to the consumer may be augmented. That, in the opinion of this meeting, the term 'immature flat fish' should be interpreted as follows: lemon sole, 12 inches; sole, 10 inches; turbot, 12 inches; brill, 12 inches; plaice, 12 inches. In all cases from the end of the nose to the end of the tail."

166. There have been several discussions on this subject by the Association at different times since then, I believe?—Yes.

167. But the sizes by which the term "immature flat-fish" was to be interpreted, have been adhered to, I think?—Yes, except one, I think.

168. At any rate without any material alteration?—Yes.

169. In the case of the Belgian resolutions, the size of the fish was less, I believe?—Yes.

170. Is it not the fact that the Belgian Minister has been a regular attendant at all our Conferences from that time, by the instruction of his Government?—Yes.

171. And that Belgium is most desirous to carry out some arrangement?—Undoubtedly.

172. With regard to the resolution passed as to the size of the fish, which you have just alluded to, the representatives of the west coast objected to the size, did they not?—Yes.

173. Can you state the reasons on which they objected?—That they considered there the fish, though of less size, that is to say, shorter, had more flesh on them owing to their having better feeding grounds.

174. You were asked by Mr. Buchanan, with regard to the sale of fish, whether, if the sale of immature fish was forbidden, it would materially decrease the evil of which we complain?—It is my opinion that it would.

175. You do not believe that the destruction of fish can be altogether prevented, do you?—No.

176. But you believe that the prevention of the sale would do a great deal to lessen the evil?—It would go a very great way to lessen this evil.

Colonel Cotton-Jodrell.

177. Could you tell me from what parts the representatives of the west coast, that you spoke of just now, come from?—The south and west coast ports.

178. Were there any from Lancashire?—Yes, and from Milford Haven, St. Mawes, Southampton and Brixham.

Commander Bethell.

179. Do I understand that your references to immature fish have relation only to their edible capacities, or also to the question of propagation?—No, not to the question of propagation.

180. Not at all?—No. I think, therefore, if the word "immature" were discarded it would be better.

Chairman.

181. Do you, in your capacity as secretary to the Fisheries Association on behalf of the Fishmongers' Company, keep any sort of check on the number and the varieties of these immature

Chairman—continued.

fish that are thrown away at Billingsgate?—No; the Fishmongers' Company only obtain returns in bulk; there is no description of them.

182. Then you have no power of telling me what are the principal species of fish amongst these immature ones?—Yes, I think plaice undoubtedly is the chief fish.

183. It is chiefly plaice, is it?—Chiefly plaice. There is not very much prime fish I think amongst them.

184. Can you tell me further amongst these fish are there many of the least marketable fish or the less generally used fish?—No.

185. For instance, are there any dabs, either the common dabs or the rough dabs?—No.

186. Then with regard to the increase in value, as I understand that increase in value is principally found among sole and turbot?—Yes, and the good-sized plaice.

187. Also in the larger plaice?—Also in the larger plaice.

188. Can you tell me if there is any increase in the price of a trunk of plaice of unmixed sizes?—No, I do not think so.

189. As a matter of fact the plaice do come into the market in trunks, do they not, mixed and not picked?—Yes.

190. I want to know if there is this year (1893) any increase in the price of these trunks of plaice over what there was in 1883?—I believe it to be so.

191. There is an increase?—Yes, there is an increase.

192. In the last five years is there an increase?—I do not know; I cannot answer the question.

193. Have you any other suggestions to make to the Committee with regard to other matters besides this question of immature fish?—I think not.

194. Neither your Association nor the Fishmongers' Company desire to lay before this Committee any evidence with regard to any general measures which might be taken either as to the preservation of the fisheries or as to the legislation for the benefit of fisheries, or as to the better placing of the fishery areas?—No; I think I have submitted all the chief points in my evidence with regard to undersized fish. Of course the Reference to this Committee goes rather beyond that question.

195. That is exactly my point. The Reference to this Committee is a very wide one, and yet you here, as representing the Fishmongers' Company, and as representing a sea-fishing Association, have no suggestion to make to this Committee except with regard to immature fish; is that so? I was going to ask that later on you would hear me perhaps in respect to the shell fish. I am not altogether prepared to-day to go into the matter, but upon oysters in particular I should like to be heard.

196. That would be a question not only of size, but also a question of spitting I suppose?—Yes.

Sir Albert Rollit.

197. Do you still adhere to the resolution of the Association, that it is desirable to prohibit the landing and sale of undersized flat fish?—Undoubtedly.

198. Do

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[Continued.]

Sir Albert Rollit—continued.

198. That is the length to which the Association has ultimately gone?—Yes.

Chairman.

199. And roughly the size you would take is about 12 inches for all flat fish except soles, and 10 inches for soles?—Yes, that is practically what it comes to.

Mr. Foster.

200. Is that for any particular period?—No.

Mr. Robert Price.

201. That resolution only applies to flat fish; not to round fish at all, does it?—No.

Sir Albert Rollit.

202. We have not considered the case of round fish, have we?—No.

203. Nor the questions of the particular sizes of round fish?—No.

Mr. G. L. ALWARD, called in, and Examined.

Sir Albert Rollit.

204. ARE you a member of the executive of the National Sea Fisheries Association, and have you been so for many years?—Yes.

205. I believe you have had large experience in the fishing industry?—Yes, I have been in it all my lifetime, since I was a boy.

206. Throughout the passage of all these resolutions of which we have been speaking, have you always taken an active part both in the debates and the like?—I have. I think I moved the first resolution upon the question of immature fish.

207. Will you tell us something of the progress of the trawl fishing industry on the Humber and at Grimsby especially?—Do you mean from the commencement?

208. Yes. Tell us it in general terms, and then deal a little more specifically with the last 10 years?—It is said to have commenced in 1840 in a very humble form.

209. Really it was commenced by those who migrated from Brixham and Torquay and those neighbourhoods, was it not?—Yes.

210. As a matter of interest, I believe the Devonshire accent is still spoken largely among the fishing community of Grimsby and Hull?—That is so, more particularly in Hull, I think.

211. What has been the progress of the industry; from small beginnings what has it attained to in Grimsby?—The present number of fishing craft in Grimsby, including all classes, is 799 vessels.

212. Can you apportion that between steam and sailing vessels?—Yes, I think so. From the commencement of the period which we speak of in 1840, I suppose in Grimsby there would be only one or two small craft that fished in the Humber. Then, I think we may say, that deep sea fishing, so far as trawling was concerned, was first established in 1854.

213. What was the number of vessels then?—The number of vessels about that time would be about a dozen all told. Then we come to 1862 when we had increased to about 117 vessels of all classes. Then in 1868 we had reached probably about 300 vessels, and from that period up to 1878, I have a list here of the number of vessels, with the increase year by year, or the actual number of fishing vessels of all classes registered out of the port.

214. Perhaps you will tell me the totals and then hand in the list?—In 1878 we had 560 vessels.

Sir Albert Rollit—continued.

sels; our highest point was reached in 1887, when we had 830 vessels. That was our highest point, and they then began to decrease, so far as the sailing vessels were concerned. We commenced with our steamboats in 1882 when we had two only.

215. And those, I think, were of a very primitive type, were they not?—They were the first type of what we called deep-sea steam trawlers, in the shape of screw boats. Previous to that, of course there were steam trawlers from some of the northern ports, that is, old tugboats which had been adapted for trawling, having grown into disuse for towing.

216. But your first two were an improved type upon those, were they?—Yes. Upon those there was an improved type in 1882 of a special kind of vessel for deep sea trawling, and we went on very gradually. In 1884 we added two more; in 1885 we added two more; in 1886 we had got 10; in 1887, 20; in 1888, 30; in 1889, 40; in 1890, 62; in 1891, 96; and at the end of 1892 we had 113. *The following Table was handed in.*

	Total of all Classes.	Steam Vessels.	Total Tonnage.	Average Tonnage.	Average length of Trawl Beam.	Number of Voyages made by all Classes.	Tonnage of Fish sent by Rail exclusive of Export.	Decrease in Number of Sailing Vessels from Highest Point.
1878	560	—	33,753	58	46	13,933	47,717	
1879	573	—	33,932	59	46	14,046	52,118	
1880	587	—	34,954	60	46	14,354	46,931	
1881	607	—	35,148	58	46	15,367	53,646	
1882	625	2	36,380	58	46	15,536	56,048	
1883	650	2	39,650	61	46	15,317	58,560	
1884	698	6	48,876	70	48	16,937	62,000	
1885	758	8	54,849	73	48	17,719	68,555	
1886	829	10	61,468	74	49	19,079	72,620	830 sailing vessels.
1887	830	20	61,542	74	50	19,780	75,000	
1888	793	30	57,990	74	50	18,800	77,661	
1889	788	40	58,430	74	50	19,100	67,761	
1890	804	62	59,414	74	50	18,917	69,567	
1891	807	96	59,686	74	50	19,910	71,198	
1892	799	113	59,044	73	50	19,306	75,647	686
113 Increase of steam.								134 Decrease sails.

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Mr. ALWARD.

[Continued.]

Sir *Albert Rollit*—continued.

217. What is the total population of Grimsby?—The total population of Grimsby is about 60,000.

218. And of that number how many are directly or indirectly interested in the fish industry, roughly?—Roughly speaking above a half.

219. Has there been a great improvement in the gear and appliances for fishing?—Yes; in addition to the gradual increase in the numbers, the size of the vessels has increased in proportion, which, of course, means an increase of appliances.

220. What is the increase in size, taking two extreme points, say from 1840 down to the present time? What was the tonnage of an 1840 boat?—I think 44 tons.

221. And what is the average tonnage of a sailing trawler at the present time?—The average tonnage of the fishing vessels from the port to-day is 73 tons. That includes steamboats and sailing vessels, because the steamboat is taken on her net tonnage, and although a very much larger vessel in point of register it only represents the same as a medium-sized sailing vessel. I have the figures of the growth of the tonnage from 1840 to 1878. Formerly the average was 58 tons, and we gradually went up until we reached the highest point of 74 tons.

222. What are the gross and net tonnages respectively of an average steam trawler now?—The largest steam trawlers would be about 153 tons gross and the net would be about 80 tons.

223. Are there certificated masters on these steamers?—All our masters of vessels from 25 tons upwards are certificated masters whether the vessels are sailing or steam vessels.

224. Have you any other certificated men on board?—The mate is certificated from 25 tons upwards.

225. Tell the Committee what are your fishing grounds?—I do not know whether it would be as well to state in addition to the size that which is a most important factor, the length of the trawl beam.

226. Yes; give us that?—I will hand the whole of the figures in, but it might as well, perhaps, be spoken. At the time I spoke of in 1860, with an average tonnage of 58, our trawl beams averaged about 46 feet, and that has gradually gone up till now they average about 50 feet, whereby the catching power is, of course, increased. In 1840 the average length of a trawl beam would be about 35 feet.

227. What is the average speed when the trawl is down?—For a steam trawler 3 to 3½ knots, and with a sailing trawler, if she has force of wind enough, they try to accomplish that.

228. What is the average time that the trawl is done, speaking very roughly?—I should say about six hours.

229. Will you tell the Committee what are your best fishing grounds; there is a chart here if you would like to look at it?—I have coloured a chart myself which I have here, and marked out the grounds as they have been explored, as it were, from 1825 up to the present time. I thought, perhaps, some reference might be made

Sir *Albert Rollit*—continued.

to it, and it might be useful and would save a very great deal of questioning.

230. Does that show the working up from the narrow waters to the North Sea generally?—It shows the point where we start from and where we finish. The colours are described there, and the small fish I have coloured in in red. The green marks show the rough ground which, no doubt, in time this Committee will hear a very great deal of evidence about.

231. Where do your trawlers begin their fishing when they leave Grimsby at the present time?—The trawlers from Grimsby may be said now to cover the whole of the North Sea, that is to say, from the Port of Grimsby we have such a diversity of large and small vessels that they may be said to be frequenting every fishing ground. We may say from this point, which I have taken as the southern boundary, just above the North Foreland up to 59 degrees, which is, I believe, as far as we have done any deep sea trawling.

232. Having given us the fishing ground will you tell the Committee whether there are any particular localities where undersized fish are chiefly taken?—Our experience in the North Sea is: as we push our way over on to the east side, say from the Dutch coast away above the Hook of Holland right down to the Horn Reef, which is about 85 miles below Heligoland, and extending a distance off to sea varying say from 20 to 40 miles, we find the principal part of the North Sea where the very small and undersized fish, soles, turbot and plaice, are caught, and for that purpose I coloured the chart "red."

233. Should I be correctly describing it if I said that the central point of that area would be Heligoland near the mouth of the Elbe, and then 20, 30 or even 40 miles westward, and bounded by the Danish, German and Dutch coasts?—That is so; that is about a correct description.

234. Having given us those areas, will you tell the Committee what are the average takes of fish; what is your catching power; can you give us some figures bearing upon that?—The figures I propose to hand in are not quite complete, but I have some reliable figures for 1875. In 1875 I have divided the catch of fish under three heads only. In 1875 as a point to start from, when we considered we had probably reached our highest taking time, the average under the three different heads would be for soles and prime fish per vessel (taking it from our own port) about 80 cwt. of soles and prime fish, that is turbot and brill, per annum; about 550 cwt. of plaice and about 1,000 cwt. of haddock. Those figures have been taken from actual sales of a number of vessels extending from that time up to the present day.

235. That is what you call the maximum catch of your vessels in 1875?—I have called it an average.

236. That is the average take at the maximum period, I understand?—Yes.

237. Can you tell me whether that average take has increased or decreased, and can you compare it with what is the case at the present time?

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Mr. ALWARD.

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Sir Albert Rollit—continued.

time?—Yes. I have the figures for 1892. The prime fish has gone down to 30 cwt.

238. In place of what?—In place of 80 cwt. The plaice has gone down from 550 cwt. to about 180 cwt., and the haddocks have gone down from 1,000 cwt. to about 800 cwt. But bear in mind the great fact that the increase of length of beam, catching power, and better appliances have still to be taken into account, even with this enormous decrease.

239. So that you have arrived, have you, at the conclusion that the annual catch per vessel since 1875 has decreased and is decreasing?—Yes.

Mr. Harry Foster.

240. Although the means of catching have improved?—Although the means of catching have improved. Those figures I propose to hand in in a detailed form as the actual facts taken from the books of the same vessels year by year, from the year 1875 up to the end of the year 1892.

Sir Albert Rollit.

241. In these figures are you giving the whole take, including undersized fish, or not?—I am including every kind of fish.

242. I should like to take you to an important question that has been suggested by the Chairman, and upon which I have some figures. Describe the contents as to size, and the like, of an average trunk of fish at the period you have been speaking of, 1875, and at the present time, both as to contents, number, size, price, and value?—I do not quite see how that could be done.

243. Take the particular case of a trunk of plaice?—If you speak of plaice the average size of plaice is much less per fish.

244. Taking a trunk, what would be the number in a trunk. Can you give the Committee any idea of the difference of number in a trunk of fish in the days we have been speaking of and now?—I speak from my own experience, and from facts which I collected in 1867. I used to take, as an average, 36 plaice for the trunk. That was the basis upon which I always reckoned my own average.

245. I have it from 30 to 35, would that represent it?—Yes, that is something like it.

246. Can you tell me what the average number now would be?—In speaking of a trunk we generally call them eight stone. The plaice caught in the North Sea now would have to be increased in quantity to make up a box; I should say at least by one-third?—And in many cases much more.

247. Much more, for the simple reason that what we at one time despised as unsaleable fish, now we are very pleased to send to market as being all we can produce.

248. Am I putting it correctly to you if I say that while the total catch of fish has remained much the same the size of the individual fish has very greatly decreased in recent years?—The total aggregate catch in weight do you mean?

249. Yes?—Yes, that is so,

0.93,

Sir Albert Rollit—continued.

250. But the size, that is to say the quality, has greatly diminished, has it not?—In the case of flat fish, yes.

Mr. Harry Foster.

251. Then there would be about 50 now in a trunk?—Yes.

Sir Albert Rollit.

252. Speaking generally, while the quantity has been constant, the size has greatly decreased, has it not?—Yes.

253. To what do you attribute that?—Might I be allowed to speak as to the actual sale price from our own facts as between the two periods?

254. Certainly?—I heard a question asked upon the subject. The sales at the period I speak, namely in 1875, prime averaged 56s. a cwt. The plaice averaged 9s. 4d., about, and haddocks about 10s. These are actual facts. At the present time (and, of course, the Board of Trade have figures), my own calculations, from the actual sale of fish, coincides very nearly with those of the Board of Trade, and I found that the prime during last year averaged about 106s. the cwt.; the plaice averages 20s. a cwt., and haddocks about 8s. as against 10s. The latter have rather gone down in price. These are averages, of course.

255. Can you compare the price per 8-stone box of plaice in former times and now?—When I gave you the cwt. I gave you the box.

Mr. Harry Foster.

256. Irrespective of the sizes, that is?—Irrespective of the sizes; but those prices are averages. Going back to that period, we often found an immense quantity of fish; so much so that they went down to a very low price, indeed. I have known a cwt. of plaice or haddock not fetch more than, say, 3s.

Commander Bethell.

257. In 1875 was that?—Yes. I have facts as to very large cargoes brought to Billingsgate Market as far back as 1867, where the whole cargo consisting of 767 cwt. of beautiful live fish from the Doggerbank, plaice and haddock principally, only averaged 3s. 9d. per cwt.

Sir Albert Rollit.

258. To what do you attribute this great decrease in the product of the fish?—To two causes. Principally, I believe, I am bound to say, to the immense increase in the quantity of the vessels and the great catching power. That is the first cause; the next is the immense capture of the immature fish.

259. You mean the undersized fish?—Yes.

260. Caught chiefly, as I understand you, on the particular areas that we have been mentioning?—Yes.

261. Do the vessels go systematically and intentionally there, or is it caught indiscriminately?—We go systematically there in search of soles and large flat fish, large plaice; and having got all the large ones, or not all, but having diminished them very materially, we are satisfied to come away with a few smaller ones as being the only produce of our labour.

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262. And

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[Continued.]

Sir Albert Rollit—continued.

262. And I believe on the western coasts, and as you put it here to, when the take has not been in some respects satisfactory you have a heave in shore, and all is fish that comes to the net?—That is so. We glean along the shores and kill such an immense number of small fish which otherwise would have found their way into the middle of the North Sea probably, but we intercept them before they get there. Having already taken such an immense quantity of large ones, the spawn of course becomes less in quantity, and then if we go to the places where the small fish abound it is very evident what the result will be.

263. I need not ask you whether this is a very serious injury both to the fishing grounds, to the fishing industry, and to the consumers?—That is so; most serious.

264. What remedies have you to suggest for dealing with this matter. You have heard the resolution of the National Sea Fisheries Association to prohibit the landing and sale of this immature fish; do you agree with that?—That is the first thing that we have turned our attention to, as being a means to assist in replenishing the mid-ocean, believing that if by some means we could be prohibited from catching them, and the most simple method appears to be to prohibit the sale of them, it would tend very largely to assist the matter.

265. Especially by rendering it no longer advantageous to go to these particular grounds?—Yes, because they could not be sold; and having shown that there is very little else on those grounds now, it would not be worth the while of anybody to go there. Another thing is an attempt to prohibit the catch would not be so advantageous as to prohibit the sale, because the prohibiting of the sale will carry with it a prohibition to catch. Then again, prohibiting the sale would have an international effect, because we find that when we voluntarily desist, which we did a year or two ago, from going into those grounds, that the foreign countries, Germany, Holland, and Denmark caught those fish and sent them into our market. Even yesterday, and on Mondays generally, we have fair arrivals of those fish. But when we have been capturing them ourselves and make them very low in price, it does not pay the foreigners to go there, but so soon as we desist from catching them, there is generally a sale for a small quantity, and we get them sent here.

266. You get them here, and of course they also take them into Ostend and other places largely as well, I suppose?—Yes.

Mr. Harry Foster.

267. Do you mean that we are the principal market for them?—I could not say that we are the principal market for them, because I think, that in Holland, in my early period, they used an immense quantity of these small fish; but I have learnt since that they prefer the large ones.

Sir Albert Rollit.

268. But there is a great sale in Ostend, is there not, for them?—Yes, I think so.

Sir Albert Rollit—continued.

269. First of all, would you have that done by national legislation only, or by international legislation?—I should prefer legislation of an international character. I do not say it would not be effectual or beneficial to our fisheries, even if it was done nationally.

270. But both your fishermen and foreign fishermen could still take the small fish, if it were not international, into foreign ports and get rid of it, could they not?—That would be the difficulty.

271. Do you think that it would be possible to define any areas; for instance, the area we have been speaking of, which Heligoland may be taken to be the central point. Would it be possible to extend the three-mile limit abroad and on our own side as well, and if so, how far would you extend it?—I think it is possible to extend it. I think a line could be drawn similar to what is described on the chart, of an international character, or it should be the same as our three-mile limit for fishing, purely and simply, and that and the powers possessed by each nation might be applied for fishing, pure and simple as far off into the sea as the line may be determined.

272. As a matter of fact the eastern coast of the North Sea is much more shelving than the western coast, is it not?—Yes.

273. And this question of undersized fish is, I suppose speaking generally, a question of depth of water, is it not?—Yes, the small flat fish appear always so soon as life takes place to make their way into shallow water on to the sands. Then with regard to the locality where those fish are found in large abundance, there seems to be a very great natural force in connection with it. In the first place, below the Doggerbank (where the immense quantities of full-grown flat fish have been caught), and on the Doggerbank itself, when the fish spawn, the spawn appears through the set of the tides to gravitate towards the eastern shore. That we have direct evidence of, for all floating objects find themselves over in the bight of Heligoland and below Heligoland and the Dutch coast. The spawn seems to gravitate with the tide to the eastward, and then the shore, being of a sandy nature, is most suitable for the development of the very fine small flat fish. Then again the brackish water that comes down from the rivers seems also to suit that kind of fish.

274. Are you speaking of the larger rivers such as the Elbe and the Weser?—Yes; I am speaking of the larger rivers, such as the Elbe and the Weser, and those rivers and the sandy shores.

275. So that we may take it generally that the small fish you think make for the shallows, sands and estuaries?—Yes, that is so, small flat fish.

276. Would you restrict the fishing in the areas you have been speaking of all the year, or only part of the year?—I should certainly do it for at least nine months out of the twelve.

277. I believe it is a fact, is it not, that the spawning of the different species of fish takes place all the year round, or nearly all the year round?—No, I should not think so.

278. Nearly all the year?—No.

279. At

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[Continued.]

Sir Albert Rollit—continued.

279. At any rate, they vary considerably, do not they?—Yes, the plaice commence to spawn about February, and the codfish commence about February; and the plaice will go on spawning up to the middle of April or May. The sole perhaps will spawn up to June or July.

280. The spawn, I suppose, sometimes sinks and sometimes floats and varies according to the species?—Yes, according to the species, it sinks and floats.

Chairman.

281. Would it not be much more correct to say that the spawn of all food fish except the herring is held in suspension in the water?—No, I do not think so. I have no doubt before the inquiry is finished you will have scientific information on that point, but I think you will find that plaice spawn sinks.

282. I think that is incorrect?—It does up to a certain point, and after it has matured to a certain point it then begins to lift from the bottom. That is from actual scientific observations, but I must not be looked upon as an authority on that point.

Sir Albert Rollit.

283. What about those rocky parts that you have mentioned; what is the bearing of that?—The bearing of the rocky parts which are described on the chart is this; until very recently the sailing trawlers were not able to fish on those grounds, and we generally find that on the rocky parts of a coast large fish are found. In recent years, since steam trawling has been in vogue, it having been found that there is not sufficient fish in the clear ground to pay them, they have gone into those places and caught the big fish and the spawning fish, and, of course, have naturally done even more than the sailing vessels which have kept in the clear ground could have done, towards depleting the North Sea.

284. When you have the trawl on board what proportions do you generally find of undersized to sizeable fish roughly. Of course it depends on the area in which you are fishing, but what are the proportions?—There are certain parts of the North Sea, and that is an immense area, where such a thing as a small undersized sole or undersized plaice is never found. It is not until you get near the shores that you find those undersized fish, that is as far as the size which has been described is concerned.

Mr. Heneage.

285. Is that chiefly within the territorial waters?—No; you will find those if you will look at the measurements as far as twenty miles; but the smaller the flat fish are the nearer in shore they come. They seem to move off in stages. For the first year they will remain in one stage and one depth of water, and they appear then—and I think it is a fact from our observations—to bury themselves in the sand in the cold winter months. Then in the spring of the following year you find them pushing a little further off, and you get them a little larger. Then again the same thing is repeated for three or four years, till they become what may be con-

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Mr. Heneage—continued.

sidered a full-grown fish, and then you do not find much distinction as to the depth of water.

Sir Albert Rollit.

286. Taking an average haul in what I will call in shore waters, by which I mean within 40 miles of the eastern shore, what would be the proportions of sizeable and unsized fish?—In certain localities clearly defined on the eastern side of the North Sea within a distance of 10 miles from the shore, you would not find a large plaice at all; they would be all small ones, undersized.

Mr. Harry Foster.

287. That is to say under twelve inches?—Yes, under twelve inches; and that applies to soles and turbot as well. Both seem to be subject to a similar law.

Sir Albert Rollit.

288. Supposing the landing and sale were prohibited, what would you do with the unsized fish?—They would have to be thrown into the sea.

289. Can you give us any idea of the proportion which would survive of what was thrown overboard?—It would depend very largely upon the particular nature of the bottom just at that particular point, because if the trawling happened to be over that very oozy ground as it is off Heligoland, an immense amount of sand would be mixed with the fish and the fish would be choked. Now with the same length of haul and the same rate of speed maintained, a little further up where the ground is harder, it would be clean, and a number of the fish would survive after being thrown overboard if the haul was not too long.

290. I believe it is a fact, is it not, that flat fish are not cannibals, they will not eat the fish thrown over?—No; they have a special food of their own.

Chairman.

291. In 1884 Sir Edward Birkbeck, when asked a question on this very subject, said that he would consider that about one-tenth part of the immature fish would, on the average, be found alive when the trawl was pulled up; would you agree with that estimate?—Not with a long haul.

292. It would not be one-tenth part, do you think?—No. That requires qualifying. If there was an instruction that a man might make a one hour haul, I would be disposed to agree with Sir Edward; but if he was allowed to make a six-hour haul, I should say that few would be alive.

Mr. Harry Foster.

293. Can you say anything as to the fish that are at the present moment so undersized that they are thrown overboard?—As to the quantity that survive, do you mean?

294. No, alive or dead; what quantity are thrown over?—In proportion to the haul that is made, I do not think there are so many thrown overboard as there were, from the fact that we have already heard, namely, that we are

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bound

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bound to save them as we have nothing else to save.

295. Is it the fact that there are many thousands of tons in the course of a season thrown overboard because they would be perfectly useless for the market, being too small?—Yes, I think I can speak to a fact which came under my notice not more than 14 days ago, where a man had, I think it was, between 300 and 400 boxes of those fish just above the size, and when asked how many small ones he had thrown overboard, he said, a great many more than he had brought in in bulk, so that if he had done that in bulk we may multiply it in figures by many hundreds.

Sir Albert Rollit.

296. Then may I take it generally that you would advocate the advisability of establishing protection over certain areas by international agreement during certain periods of the year?—Yes, that is so.

297. Have you any experience of the Belgian law?—Only from the statements made by their representative at our Conferences.

298. Do they enforce it?—I have not any knowledge upon the matter.

299. Do you think it would be possible to do anything in the way of propagation of fish so as to restock the ocean?—Judging from what has taken place in other parts of the world, I am very sanguine indeed about it.

300. Have you commenced doing that at all at Grimsby?—We established a small nursery five years ago, but on account of the unsuitableness of the water it has not been very successful. It has been successful to the extent that we have hatched each kind of fish we have attempted to, that is we have hatched plaice this year, and soles, cod and herring.

301. Is it the Humber mud that makes the water unsuitable?—The specific gravity of the water is not dense enough, that is one thing. Then the thick particles in the water destroy the egg, so soon as ever the little shell begins to break the particles of water destroy it.

Mr. Robert Price.

302. I do not think you gave us the absolute tonnage of steam and sailing fishing vessels at Grimsby, have you; did you?—I did not give the different tonnages. We have 113 steam trawlers, and it would be right to take their gross tonnage, inasmuch as this tonnage of a sailing vessel is given in gross. I should, therefore, multiply the 113 by 120 tons.

303. What about the sailing vessels?—And the sailing vessels by about 70 tons. I have the gross tonnage of the vessels in port to-day, but it is taken upon the sailing vessels and steam boats together. There are 59,044 tons of fishing craft altogether.

304. What is the number of the sailing smacks?—The number of sailing smacks at the end of 1892 was 684 of all classes; cod, oyster, trawl, and everything.

305. Then the number of smacks is very much about the same as it was in 1878, is it not, but there are more steam vessels?—In 1878 there were 560, and at the end of last year 686.

Mr. Price—continued.

306. Then you have increased since 1878?—Since 1878 we have increased.

307. Although you have put down 1875 as your highest point?—Yes.

Mr. Heneage.

308. The increase is mostly in steam trawlers, is it not?—Yes, the decrease in the sailing vessels from the highest point has been 134. The increase, of course, from the commencement of the steam trawlers is 113. That is the total number we have, minus three that we have lost.

Mr. Robert Price.

309. May I ask what you are; are you a trawl owner?—I am a smack owner and fish salesman.

310. Both sorts of smack trawling and drifters?—We have no drifters at Grimsby.

311. Have you ever done practical work on board the smacks?—I went to sea when I was about nine years of age, and was master for about seven or eight years.

312. Is the trawl bear the same size on a sailing vessel as on a steamer?—No; we have never exceeded 50 feet in the largest sailing trawler, but we have gone up to 60 feet in a steamer. We may take it at about 58 feet for a steam trawler, and about 45 feet as an average for a sailing trawler.

313. I did not catch the average pace which you said a sailing trawler went with the trawl out; you said three and a-half knots for a steamer, did you not?—Three and a-half knots an hour would be the maximum at which anybody would tow a trawl, but it would be difficult to speak as to the average of a sailing trawler; it would depend on the wind, but it might be taken in this way, that for a sailing trawler to be fairly fishing or making a fair catch, she might tow from a mile and a-half to two miles an hour.

314. You have mentioned the special localities at which the undersized fish are caught; are they the great fishing grounds for the soles and flat fish generally?—Yes, at certain times of the year.

315. Then that is the reason, I suppose, why the fishermen go there, because they cannot catch the flat fish anywhere else, and they have to take them, small or large, as they get them; is that so?—No; we catch flat fish, more or less, in the large area of the North Sea, but where the small flat fish are is where the soles have been generally found, and the incentive is to go out for the soles.

316. That is the reason, because they catch soles there, is it?—Yes.

317. In comparing the average weight of fish caught by a smack in the best period, you told us that there were 80 cwt. of prime, 550 cwt. of plaice, and 1,000 cwt. of haddocks, and now only 30 cwts. of prime, 180 cwt. of plaice, and 800 cwt. of haddocks?—Yes.

318. That is a very enormous decrease, is it not?—It is.

319. You also said the weight of fish caught was about the same, but that decrease per boat is infinitely greater than the increase in tonnage,

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[Continued.]

Mr. Price—continued.

or catching power, is it not. The ratio of decrease is infinitely larger than the ratio of increase in the catching power?—I do not find any figures to warrant that statement.

320. You said the aggregate weight of flat fish was approximately the same, did you not?—No, if you are speaking of the aggregate quantity of fish landed at any particular port where the development of the trawl fishing has gone on, then there is as much landed, and more, because the immense increase in the quantity of vessels, of course, keeps up the decrease in the catch per ship.

321. What I mean is this: You have told us the increase in the catching power at Grimsby, which is very considerable?—Yes.

322. But it is not half so large as the decrease in the average which you have given us, is it. The decrease in the average which you have given us, is a decrease of very much more than 50 per cent. since 1875, but the increase in catching power is not so much as that?—Not since 1875.

323. Yes; the average catch is only about a third now, as I understand your evidence?—I think I pointed out, that in one particular kind of fish, that is the haddock, there is very little decrease.

324. Yes, that is so; but in the case of the soles and plaice it is tremendous, is it not?—Yes.

325. With reference to the increase in the price of soles and of plaice, of course a great deal is attributable to the smaller supply, but I suppose a very great deal is attributable to the increased demand, is not that so?—Yes, it would be so. Of course the increase in the population of the country is considerable in every town.

326. I understood you to suggest several remedies, but the last witness only suggested one, namely, the prohibition of the landing and sale of undersized fish; you suggest that, do you not, as the first step?—Yes.

327. Did I understand you to recommend the increasing of the three-mile limit, the territorial limit?—For the purpose of trying to prevent the catch and to protect the ground, I suggest that we increase the limitation, but for that purpose purely and simply, and to have the localities properly defined.

328. According to the present law the three-mile limit means that France may not fish within our three-mile limit, and that we may not do so as to France; but if you increase the three-mile limit that would not prohibit the fishing by our fishermen within 6, 12, or how many miles the limit may be fixed at, and foreign fishermen fishing within the same limit of their own coast, would it?—That may be so; but there is a very large coast line on this side of the North Sea where there is no necessity for the increase of limit. It is on the east side of the North Sea where the necessity is, and the extension of that limitation I say should be done within clearly-defined limits.

329. But it would not be worth our while, would it, to allow a foreign nation to increase their territorial limit because their fishermen could then fish within that limit while our's could not, is not that so?—If it was of an international character I do not think so.

330. But that is not increasing the territorial limit as ordinarily understood, is it?—No.

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Mr. Price—continued.

331. That would come within the limits of your next proposal, which is to restrict the right of fishing by international agreement over certain areas in certain seasons of the year, would it not; you said you thought that that should be nine months?—Yes.

332. The breeding season does not last so long as that, does it?—No; but you must not confound the question of the breeding season with the preservation of undersized fish.

333. Quite so; but it takes several years apparently for fish to come to maturity?—That is so.

334. And your opinion is that they are bred in this restricted area, say ten miles from the coast at a particular spot, and that they gradually go out to sea?—Yes.

335. Migrating a certain distance every year?—Yes.

336. So that you find them larger and larger as you get away from the coast?—Yes.

337. That would look very much as if a certain area ought to be protected altogether, would it not?—The probability is, that after a trial of protection for certain months of the year, you might think it wise to extend it to the whole year, or three or four years as a trial.

338. I quite see that that might be a very good plan. Now, with regard to the rocky parts, you said that, until recently, the sailing trawlers could not fish in the rocky parts; could steam trawlers always fish there; I should have thought that the inference was that the rocky parts tore the nets?—That is so; but there is rough ground which is not rocky, where there are large stones, and where the bottom of the sea is of a hard, crusty nature, like hard sand, and stands up in ridges. A sailing trawler pulling his net over that would stop and could not get along; whereas, a steam trawler, with the immense amount of power he has, simply goes on, and the nature of the bottom is not such as would interfere with his net; he having more force, he simply goes along.

339. Then, what is your opinion about the result of throwing from you dead, unsizeable fish, does it destroy the fish on that area?—I do not think it would be of much use unless we restricted the length of the haul.

340. In your opinion, with the present six hours' haul, there has been very few fish left alive, I understand?—Very few indeed.

Mr. Harry Foster.

341. With reference to the question of limiting the size of the fish, is it a fact that there is a very great difference of opinion as to what the minimum size should be, assuming that there was legislation?—From the Thames, northward, I do not think there is much difference of opinion. I think the only difference of opinion we have met with is from the Thames westward, down, say, to Devonshire.

342. Is it not the fact that the general tendency of these conferences has been gradually to reduce the size rather than to increase the minimum size?—Yes, I believe the first size was put at 12 inches; then a compromise was made for 10 inches, and then a step forward, I believe, brought us up to 12 inches again. But I see my last

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last note is that we agreed to 10 inches for plaice, 10 inches for soles, 12 inches turbot, 12 inches brill, and 11 inches for lemon soles.

343. First it was suggested that it should be 12 inches, at another conference it was 11 inches, and at the last one, I think it was 10 inches?—Yes, I believe at the last conference, which was in 1892, where no discussion took place, 10 inches was fixed.

344. Reference has been made to the Belgian law. Are you aware of the fact that by the Belgian law the sizes are very much less than are suggested at any of these conferences?—Yes, I am aware of that.

345. That by their law the minimum size of plaice is 7·2 inches, and for soles 7·2 inches, as against 10 inches; and for turbot 10 inches, as against 12 inches; and for brill 10 inches, as against 12 inches?—I am aware of that.

346. Have you any observation to make upon that?—Only that, taking our view of the matter, the sizes are too small, and you accomplish but very little indeed.

347. I understand that you do not make any suggestion at all as to increasing the territorial limit as it is generally understood, but your recommendation is that by international consent all the nations should prohibit themselves from fishing within certain defined areas for a certain period?—Yes, I am entirely against increasing the territorial limit of any nation. I think it is quite sufficient for international purposes.

348. You make no such suggestion at all, do you?—No such suggestion at all, and I think it would be very detrimental in every shape and form to increase the territorial limits of any nation, excepting those defined limits for these particular purposes.

349. With reference to your statement as to the quantity of fish landed, and the average per vessel, as compared with 1875, it is the fact, is it not, that the vessels engaged have something like doubled since 1875?—I think the aggregate of trawlers in the North Sea, since 1875, must have trebled; not only doubled, but trebled.

350. Then, in addition to that, the gear is very much improved, is it not?—Yes, the gear is very much improved.

351. So that vessel for vessel now, as compared with 1875, assuming the same quantity of fish, you ought to have a better catch, ought you not?—Certainly, because you had a beam of 46 feet, as compared with one of 50 feet now. Then, as to the towing power, we always consider, and it is borne out by facts, that one steam trawler will catch from four to five times as much as a sailing trawler.

352. The point of your evidence upon that subject, is, I understand, that although we have a very much larger number of vessels engaged, and improved means of catching the fish, the aggregate weight of fish caught is the same, or less, than it was in 1875?—Yes, from our own port, from a rough estimate I have made. It probably would not bear very close estimation, but from a point of view of my own, I will give you some small calculations which I have had by me for a number of years. The number of vessels that arrive in the port is about the only

Mr. Harry Foster—continued.

basis which I have, and which I produced at a meeting; the first meeting, I believe it was called, to take this matter into our serious consideration. I will take the period when we found that we had got to our highest point; the 19,000 voyages which were made into our port by the 829 vessels, which were registered from the port, brought 78,000 tons of fish.

353. What is the date of that?—That was in 1886. That gave an average of 4 tons 1 cwt. 3 qrs. and 20 lbs. that was landed from every voyage. Those figures are not what you might call quite accurate, but they are approximate, and bear some comparison as they are worked out from year to year.

354. What can you give us in comparison with those figures?—We went on increasing the size of our vessels, and added to them steam trawlers with a four-fold catching power, and we have never arrived at that point since, that is, taking the average. The highest point we have ever come to was 3 tons 18 cwt. 1 qr. 13 lbs. from each voyage. So that although we are adding thousands of pounds annually in value, and increasing the size of our vessels and catching power, we cannot reach a point of capture anything like what we have done.

Mr. Heneage.

355. With greater cost and better vessels, you are not able to bring the same amount of fish to shore?—That is so.

Commander Bethell.

356. With reference to the last question that was asked, I remark that against that has got to be set the very large increase in price, which amounts in the case of prime fish to 25 per cent., and in the case of plaice to 30 per cent.; but even with that increase in price, I suppose we may say that the Grimsby people engaged in fishing are worse off than they were in 1875?—Yes.

357. In spite of the increase in price?—That is so.

358. May I ask if you are a member of the North Sea Fishery District Committee?—Yes.

359. Has that committee stopped all trawling within the territorial limit?—Yes, we have.

360. How does that affect the Humber?—Within certain periods we have closed the Humber; but trawling outside we have stopped altogether, that is to say, from Flamborough Head northward, as far as our limit goes, with the exception of Bridlington Bay.

361. Do you think that has given satisfaction, as a whole, to the long-line fishermen?—I continually asked their opinion, and without an exception they say that it has improved their condition.

362. It has improved their condition, has it?—Yes.

363. Can you tell me what view the Flamborough Head people take of that?—The Flamborough cobble trawlers are very much against it, for the simple reason that it interferes with their calling.

364. They go now into the North Sea, of course, more, do they not?—No, they are small boats; they are small open boats.

365. Then

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[Continued.]

Commander *Bethell*—continued.

365. Then what do they do now?—They have the means of lining and crabbing, and we have left them a space in Bridlington Bay for trawling at certain times of the year.

366. I should like to know whether you think that fishermen generally from Grimsby and Hull, and round that coast, would or do receive with any approval the scientific teaching upon the subject of fishing and the habits of fish; or do you think they rather consider the scientists are mere book people whose advice is not worth taking by practical persons?—I think on the broad principle they have not turned their attention to it; but we have a number of fishermen who are quite alive to the fact, and seek very readily for any information which can be imparted to them by scientific people.

367. Do you think much good will be done to the fishing industry if, for instance, the county councils go on endeavouring to instil the results of scientific investigations, or place them before the fishing people?—I do not think individually it would do them a very great deal of good in their own calling. But I think generally we require that information. That is to say, for instance, the North East Sea Fishery District Committee, whose duty it is to attend to the fisheries, are wanting in scientific knowledge to direct them. When we had the bye-laws before us we had a conflict of opinion. Certain opinions were expressed by fishing people, and it was not until some scientific knowledge could be brought to bear that we could convince them that something must be done. They will not combat scientific knowledge, but they do not care much for the subject as a whole.

368. Taking the question of immature fish, when you have been speaking all this time of immature fish, have you been speaking of undersized fish, or with reference to the propagation of fish?—I am speaking now of undersized fish, that is, having stated a size. We must not confound the two terms.

369. You are speaking with reference to undersized fish, I believe?—Yes.

370. With reference to undersized fish, do you not think greater endeavours might advantageously be made to teach fishermen the disadvantages to themselves and to the trade of taking immature fish; do not you think, although not very quickly, but still by degrees, that knowledge would impress itself upon them, and perhaps do as much good as anything else?—There is quite an instinct which I think is developing itself. That is the proper word to use, because I felt it myself many years ago when at sea. That instinct has developed itself into a timidity on their part, and although they desire to take this fish, they feel they are injuring themselves. There is no fisherman I come into contact with at the present day who would be prepared to combat that.

371. That has rather arisen perhaps with reference to market conditions and the fall in the price of fish, and so on?—No; that is perfectly understood now by every fisherman who is a thinking man at all; in fact, I will use the word "everyone." They feel if they do not soon desist catching those small fish that, as far as the flat fish is concerned, the North Sea will be

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Commander *Bethell*—continued.

denuded altogether. There is that thorough conviction, but the great difficulty is, how are we to do it? We have tried by voluntary effort. You will see the resolutions that have been passed in our conferences nationally, and you will, I have no doubt, have resolutions put before you, passed locally; and the whole tendency is to try and find a means out of the difficulty.

372. I suppose I may take it that fishermen generally are not very familiar with the breeding habits of fish?—No, I think not.

373. Would you say that if any endeavours are made for the artificial propagation of fish, that unless fishermen had some instructions on the point, and some general simple laws to observe, they would not give that assistance without which probably such attempts would not be successful?—I believe that is so; I believe it is absolutely necessary that scientific information should be put into the hands of those who feel anxious and willing to accept it, that they may learn it and turn it to some good account.

374. Would Filey be a good place for any attempt at the artificial propagation of fish, do you think?—I think Filey is the best place I know anything about on the east coast of England.

375. Do you think the water would be still enough there?—I think there is not such a suitable place on the east of England as the inside of Filey Brigg.

376. You said, and the witness who was examined before you said, he thought the best way of stopping the capture of immature fish was to stop their sale in the market, and seemed to think that any proposal to prohibit fishermen taking immature fish would not be of much value. I should like to ask you whether you do not think that a law which forbids people taking immature fish, or even which would limit the period during which they might leave their nets down, although it could not be rigidly enforced, would not by degrees force itself on the people and have a good effect?—I do not think that it would have any good effect.

377. You say you do not think it would have any good effect?—No; I think it would have the effect of making the law of no avail; that is to say, I do not think it would be used and observed.

378. You do not think even that with such police regulations as a district committee could have, and occasional means of enforcing them, that by degrees such a law would impress itself on the people, who would gradually see it was to their own interest?—No, not in the open sea. That is so in our rivers. For instance, in our bye-laws of the fishery district in the River Humber we have it stated that they shall not tow their nets any longer than a certain period, in order that they may throw into the sea all the small and immature flat fish while alive. But in the open sea I hardly see how you could observe the law, or make them observe the law.

379. I do not think you could probably rigidly enforce the law, but as you seem to think that an international law might be good in some cases, do not you think that an international law, even in the open sea, would have some effect of preventing people from keeping their nets down such a time that immature fish would be, in a great majority of

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Commander *Bethell*—continued.

of cases, killed?—No; I think a law of that description would be inoperative, because you would want a policeman for every fishing craft.

380. Then do you see no way of doing anything in this respect except the preventing of the sale of such fish on shore?—I think that is the only thing at present.

381. Then may I take it that, as far as undersized fish are concerned, the question of the mesh of the net does not come in?—We have never yet made up our minds that that would be of any effect. The law which did exist, I believe, previously to 1854 was proved to be inoperative, and it was repealed. We have been trying a number of experiments in the Humber with various sizes of mesh and towing various lengths of time, and it is admitted that with a big mesh we get the larger quantity of big plaice, while the very small ones pass through. We have to admit that from the experience of about three months' constant trawling in the Humber.

382. Would that be undersized fish, or only immature fish in the sense of propagation?—Undersized fish. I am speaking now of small fish three or four inches long; catching them, say, with an ordinary-sized mesh, such as the shrimpers and those little boats that fish for small soles in the River Humber use. It is a very well-known fact that they catch very small flat fish from an inch to two or three inches in length, and from experiments we have made with nets, with the mesh a little larger and a little larger, and so on, we have discovered that we can lessen the capture of the very small fish.

Mr. *Harry Foster*.

383. By the size of the mesh?—Yes.

Commander *Bethell*.

384. That would be, of course, no use with regard to the fish 10 and 11 inches long, would it?—No, it would only apply to the fish, say, a few months old, or say up to a year old.

385. It is useful so far as immature fish, speaking in the strict sense, are concerned, but no use with regard to the undersized fish?—The immature fish would not go in there, but as to the undersized fish it would be of very little avail. I am speaking now of a fish just below 10 inches. If you wanted to go and fish on a ground where there are some of the very smallest up to, say, 15 inches, no mesh we could employ would let out a fish just under 10 inches; it would have to be a very large mesh indeed. But you may employ a mesh that would let out a fish two or three inches, and with short hauls you would be benefited.

Colonel *Cotton-Jodrell*.

386. As keeping the fish alive, you mean?—Yes; letting them out really.

387. Giving the fish more chance, is it not?—Yes. Of course we are speaking of flat fish; I am not speaking of round fish. I make that distinction because what would not let out a 10-inch plaice would, of course, let a large cod-fish through.

Commander *Bethell*.

388. I remarked in your evidence-in-chief that you said very young plaice, and I think other flat fish, are met with in the shallow estuaries?—Yes.

389. I asked the question because I happened to be reading one of the Reports of the Scotch Fishery Board a day or two ago, and one scientific gentleman, I think, says as a matter of fact that plaice and flat fish in an immature state are met with in a very small degree in these estuaries. Are you speaking positively or not?—My answer to that is that we never find them in the middle of the North Sea. They must have an existence somewhere, and when we get near the shore we find them, so I think we are justified in coming to the conclusion that they are there, and not only justified in coming to that conclusion, but we catch them in enormous quantities in our River Humber and on our shores. I can go down with a small landing net at any time this time of the year and scoop them up.

390. I should like to ask you whether, in your district fisheries committee, you have an officer appointed?—No, it stands in abeyance; we have not appointed one.

391. Can you tell the Committee whether the other district fisheries committees on the coasts have stopped the trawling within the territorial waters?—The Lancashire Fishery Committee are dealing with it in some way, but I am not quite certain what it is. They have a number of bye-laws dealing with shrimping and fishing on certain areas.

392. There was a bye-law passed not long ago, as to which there was a difficulty with regard to the shrimping in the Humber and extending the time; have those men been satisfied, can you tell us, with the extension which was given?—I think so; yes. That will come into operation next year.

Colonel *Cotton-Jodrell*.

393. While we are on this mesh question, to save time, might I ask you what the size of the mesh is you are using in your fishery district?—In our trawling net it would be about four inches from knot to knot when extended.

394. Is that what you call a 7-inch mesh?—I do not know how you would measure it.

395. You do not describe it in that way?—We generally describe it when the mesh is open between the two knots. That would be about a medium mesh. We go down to 2½ inches and probably up to five inches in some parts of the net.

Mr. *Harry Foster*.

396. Do you mean four inches square?—No, when the net is pulled straight out.

Colonel *Cotton-Jodrell*.

397. What would be the area of that mesh?—Eight inches round. We should take it in a diamond fashion and pull it straight out.

398. What do you call an immature or undersized fish; I have not heard the size stated?—When we speak of undersized fish, I do not know by whose authority yet we have a right to use the term, except so far as the National Sea Fisheries Protection Association, which is a properly

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[Continued.]

Colonel Cotton-Jodrell—continued.

perly constituted body, is concerned. They, having set themselves up as an authority with everybody's consent, have said 10, 10, 10, 12, and 11 inches. That is the only authority I can give you for calling fish undersized. Of course when you come to the question of "immature," then comes the scientific question. In some parts of England, or in some parts of the sea round England, they are immature up to a much larger size than in others.

Mr. Harry Foster.

399. Because of the difference in the food ground you mean, I suppose?—Yes; of course fish are like other things, there are certain parts of the sea where they grow, and at the age of three or four years they will be double the size they would be at three or four years somewhere else. The question of climatic changes and the nature of the food comes in.

Colonel Cotton-Jodrell.

400. What from your experience as a practical fisherman and a fish salesman should you think would be the proper definition of an undersized sole?—An undersized sole we have stated to be below 10 inches.

401. In your Fisheries Committee that is?—Yes.

402. And do you agree with that?—Yes.

Mr. Heneage.

403. Are not you a member of the Committee of the Sea Fisheries Association, and were you not a party to the Resolution in which they stated that undersized brill were to be 12 inches, lemon soles 11 inches, plaice 10 inches, soles 10 inches, and turbot 12 inches?—That is so.

404. That is what the fishermen, salesmen, and masters of Grimsby are all agreed upon?—That is the only authority that I know, or the only authority I should be prepared to recognise, believing it to be a properly constituted authority, unless some reason can be shown why the sizes should be either increased or decreased.

Colonel Cotton-Jodrell.

405. Will a sole in its normal state of activity, and when it is fresh in the salt water, slip through a comparatively small mesh?—Yes. A much smaller mesh than a plaice will, because the spine bone of the plaice is an obstruction to him.

406. So that the same rules which govern the restrictions on soles might not apply to plaice?—That is so. It would not be effective in one case, while it would be in the other.

407. What time do sailing trawlers generally keep their nets down?—I stated that I thought we might take it at six hours.

408. That, I thought, was with regard to steam trawlers?—No, sailing trawlers; steam trawlers would take less, and some sailing vessels, in certain localities on rough sharp ground, perhaps not more than an hour or two hours; and fish in narrow places not more than an hour. But it has been generally considered in trawling, from the fact of the tide running one way six hours, that a trawler's haul is six hours. That was so originally, and it applies to some extent now.

409. Of course that has been a good deal altered by steam?—Yes.

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Colonel Cotton-Jodrell—continued.

410. You spoke at the beginning of your evidence as to the tonnage of the boats in your district, can you give us any evidence as to the tonnage of the foreign vessels with which you come into contact in these waters?—I should say myself that the increase in the size of the foreign vessels has kept pace pretty much with ours. I am speaking of deep sea vessels, because on the east side of the North Sea there has been a large increase, in Germany especially.

Mr. Harry Foster.

411. In size and number, do you mean?—No, I am speaking now of inshore. There has been a large increase in the quantity of those small inshore vessels which have not increased in size much. But as soon as those countries went in for deep-sea trawling, I believe the size of their vessels has increased pretty much the same as ours. Perhaps Belgium has not quite so much, but they have taken to steam-trawling, and have taken to the same type of trawlers as we have.

Colonel Cotton-Jodrell.

412. They have not adopted steam so freely as we have, have they?—No, I do not think they have. As far as deep-sea trawling is concerned, speaking of Germany, they made two or three attempts to establish it some years ago and failed, but now they have taken to steam-trawling they appear to be succeeding, and they seem to be equally interested in the welfare of the fisheries in the North Sea now as we are. I do not think there would be such difficulty now. While they were confined to the small inshore craft, we might have found difficulty in getting them to turn their attention to this limitation, but now that they are interested in the deep-sea fishing I think we may find them willing to go with us. I think Belgium may be said to be similar; but so far as Holland is concerned I do not think they have developed any steam-trawling, or at any rate, if they have it is to a very limited extent.

Mr. Heneage.

413. With regard to the question I have asked you: the resolution with regard to the size of fish was passed on 24th February 1892, and that is the last resolution which has been passed, is it not?—Yes.

414. With regard to the reduction of the length of haul, how could you carry that out?—Are you asking me, if a suggestion was made?

415. No; I understood you to make a suggestion that the time of hauling might be reduced by the trawlers. If you did not make this suggestion I will not ask you the question?—I did not see my way clear to accepting any special time.

416. With regard to the restriction and the advisability of special protection over certain areas during certain periods of the year, you do not propose that those periods should be uniform in all cases, do you, or that they should refer to any but exceptional areas?—If such a law was passed I should suggest that it might be made to apply to one place at a certain time and another place at another. I do not say with regard to the

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Mr. Heneage—continued.

the east side of the North Sea that much difference of time could be made; it might on our own coast, perhaps. There may be places on our own coast, perhaps, where it would apply at one time and not at another. I do not think really, though, it would be much.

417. Supposing a restriction was placed, with a view to the preservation of fish in the particular areas, why would you restrict it to certain months in the year; because would not the fish be undersized all the year round there?—Yes; but I think there is reason to suppose that those very small flat fish get under the sand, and even if you were to trawl over where they are, you would have a difficulty in getting some of them, that is to say, with fish very close in. I see from my own observation in our own little nursery, that in the winter months the small plaice we keep in those tanks always bury themselves; we never see anything of them, but as soon as the spring months come (March, April, and fine weather) they come out and feed and eat; but during the winter-time they stay, as it were, dormant. To larger fish I do not think that applies; but only to the small fish.

418. Some questions were asked with regard to steam trawlers and sailing vessels; is it not the fact that steam trawlers are now becoming more numerous, and that sailing vessels are practically going out altogether and becoming, in some cases, almost unsaleable?—Yes, that is so; we have decreased 139 sailing vessels, and increased 113 steamboats in our own port.

419. At the present moment at Grimsby there are no sailing vessels really being built, are there, or practically none?—I do not think there is a sailing trawler being built now.

420. Whilst there are a good many steam trawlers being built?—Yes, steam trawlers are progressing.

Chairman.

421. It seems to me your evidence might easily be summarised something like this. Such has been the development of trawling in the North Sea, whether by increasing the efficiency of the gear or by the application of steam, that unless some method is adopted for your own protection against your own ingenuity, you run a considerable chance of falling into a bad condition of trade?—That is so, and not only fall into a bad condition of trade, but the fisheries may become extinct. That, I think, is almost the proper term to use, because we have known ports where the fishing trade is dying out.

422. And that is due to the ingenuity of man in developing the resources of trawling?—That is so. I will not say it is entirely due to trawling.

423. You have spoken about no other sort of fishing?—No; but you said to trawling. Lining is the same.

424. Except that, so far as lining is concerned, it does not apply to flat-fish, and your evidence has been confined practically to flat-fish, which are only caught by trawling?—If you confine the question to trawl-fishing, then I shall have to say yes.

425. But you also say, do you not, that the

Chairman—continued.

effect of development in lining has had a great effect in the diminution of round fish also?—Certainly.

426. But you have made no suggestion, as I understand, with regard to any restriction or regulation as to liners, or the catching of round fish?—If the question was put to me, I should be bound to give an answer.

427. I want it?—If you ask me how the line fishing is to be protected, I see no other suggestion to make except to close the lining at a certain time of the year when the fish is spawning, and prohibit lining.

428. Why should you not also prohibit trawling when the fish is spawning?—Probably that will be the next thing that will come, if you ask me my opinion. I shall be pleased to hand in a paper containing a verbatim report of a meeting; I believe the first one ever held on this question, so far as I know, and in that I explained the whole of my views; having taken some interest in the matter I put forward three alternatives, first of all we had to establish the fact that the fish was diminishing, and having proved that then came an obligation. Then came the question how were we to deal with it. Were we to close certain areas, were we to give over fishing at certain periods, were we to artificially propagate the species of fish which was diminishing. There are those three things, and now I give my opinion as an individual, not speaking on behalf of the trade. I should not be allowed to speak probably so freely if speaking for the trade, because there might be a great difference of opinion, but having considered those questions scientifically to some extent, I perhaps hold a different opinion to what some of the people do. The facts have forced themselves on my attention from observations and investigations.

429. You would recommend really and truly then all these three courses being taken. You would recommend the prohibition of certain areas; you would recommend a close time for all sorts of fish, and you would recommend the propagation of fish artificially?—Yes, if I give an opinion apart from an inquiry under the auspices of the Sea Fisheries Association.

430. This is quite apart from the auspices of any association, this is an inquiry under an Order of the House of Commons, so we wish to hear all you have to say?—I have finished answering the questions Sir Albert has put to me, and you now ask me frankly my opinion, I understand?

431. Yes?—My opinion is simply this: That the history of the fishery proves to us, from 1825 up to the present time this, that as we have discovered new grounds which are clearly defined on that chart we have fished them out, we have moved on and found other grounds and fished those out, and we have still moved on till we have covered the whole of the North Sea with trawling.

432. I would like to ask you whether you remember fishing on the Brown Bank?—Yes.

433. Is that still useless?—I do not think there are many fish there. You may find what we would call the remains of the departed inhabitants of that ground.

434. Yet

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[Continued.]

Chairman—continued.

434. Yet that was a most prolific bank when first discovered, was it not?—Yes.

435. Within when was that discovered?—From 1825 to 1835.

436. Is it so far back as that?—Yes.

437. Do you go there at all now?—Yes, the whole of the North Sea, where all those new grounds have been discovered from time to time, are still being worked, but at a very poor remuneration. I know of no ground that is entirely abandoned.

438. I should like to go back again to the question of prohibiting the capture and the sale of immature fish, and ask you this as to your private opinion. Do you think that so far as keeping up the stock of fish in the North Sea goes such prohibition would have much effect?—Yes, I do.

439. Because you yourself have admitted that very few of these undersized fish would return to the sea alive?—The prohibition of a certain area, do you mean?

440. No; the prohibition of the sale and capture of undersized fish?—The effect it would have would be this: It would keep the people off from those grounds where they abound in such quantities; it would drive them to other parts of the sea, and they would have to remain there little or much.

441. Do you not think when they were at the other parts of the sea, and found they did not catch a great deal, they would go back again to these districts, where you say the small fish abound, on the chance of getting a fair-sized haul of, at any rate, mixed fish?—No; the quantity of fish above the size here specified are so few that it would not pay them; they would not be sufficient to pay to go there.

442. Do you mean to say that the fish caught at these areas, which you have marked red on the chart, are mostly flat fish under 12 inches?—Yes.

443. Taking them all round?—Yes, the greater portion of them would be.

444. Do you mean to say that it is worth while for trawlers to go on to these grounds now with the certainty that they are going to have a catch of fish, the bulk of which is under 12 inches?—Certainly.

445. Would you send one of your smacks wittingly on to ground where you knew they were going to catch flat fish of which the bulk would be under 12 inches?—Yes.

446. You would?—Yes, we have vessels going there.

Mr. Harry Foster.

447. As a matter of fact, you do, do you?—Yes, we do; with the knowledge that we are injuring ourselves.

Chairman.

448. Then, as I understand, you do not consider that there is any large area off the British coast to which this state of thing applies?—To a very limited extent indeed, in the estuary of the Humber, and the deeps, more particularly the Humber, and Boston and the deeps, the nature of the bottom and shores are very similar to those on the east side of the North Sea.

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Chairman—continued.

449. Does it not strike you that the difficulty arises from the fact that while you are going to close a considerable belt of sea off the Danish and Dutch coast, yet you are going to have no sort of reciprocity by closing anything off the British coast?—Yes, that would be so; but the reciprocity does not come in there.

450. Yes, surely, because the foreign fishermen naturally have the first claim on these grounds, and more particularly the smaller class of fishermen carrying on trade in a smaller way naturally looks to the sea near his own shores to catch his fish in. Therefore it would probably create, would it not, a certain amount of feeling on those foreign coasts, if that particular area was closed?—I admit that. I readily admit there would be naturally a very great deal of friction and feeling in the matter, but the international necessity, I think, would have some effect; that is to say, they having commenced in deep-sea fishing, become now jointly interested in the matter; and then we have to admit this: that the creature is there, but we cannot say it was born there. The eggs were shed in mid-ocean, and by the force of nature are there, and mature, and we have a right in the middle of the ocean to say that we have some right to the matured fish when it arrives at the stage to go back to its home.

451. I would put the question in a little different form. I would like to ask you what sort of state of feeling would be aroused in the breasts of the English, Scotch, or Irish fishermen, supposing you proposed to close an area of, shall I say, 100 miles long by 20 miles broad along any portion of the British or Irish coasts?—For the convenience of other people?

452. Yes. Do you think, as a practical matter, it would be possible to close such a portion of the British seas for the benefit of Dutch, Danish, and German fishermen?—No. Really I think if it was beneficial to them to close the sea on their side of the North Sea it would be also beneficial for us to close ours on our side; but if there happens to be a larger advantage on their side of the North Sea from natural causes than there is on our side, that is an international advantage. I cannot see any way out of the difficulty.

453. I am not at this moment disputing the fact that it would be a matter of advantage to all the trawl fishermen, at any rate fishing in the North Sea, that a certain area should be closed; but what I am putting to you is a different question. If that proposal were to be made to apply to a portion of the British coast, would not the effect be that the fishermen living on that coast would absolutely refuse to allow it to be done?—Yes, naturally, and I suppose Englishmen more than any other nationality.

454. I quite agree; therefore I ask you to apply the same argument to the foreign fishermen whose coast you propose under your idea to close?—I admit the difficulty to the very fullest extent.

455. Let us admit a possibility of doing it, and let me take you a step further. How would you propose to enforce any such regulations?—By an international police.

456. Then you propose to establish international police for the whole area of the North Sea,

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Chairman—continued.

Sea, do you?—No, within those prescribed limits.

457. Then would you propose to bring in, we will say, a British policeman to enforce the law on the Dutch and Belgian coasts?—I take it that it would apply precisely the same as the Sea Fisheries' Convention Act applies, namely if any dispute arises in the middle of the North Sea between two nations or vessels, whichever nationality happens to be present in the shape of police, he has the same jurisdiction over one fisherman as he has over the other; that is to say, if damage has been done to a net, assessment can be made, or entry can be made, and it becomes an enforceable thing in any of the countries which have subscribed to the Sea Fisheries Convention.

458. That is a thing I quite understand all nations agreeing to, but that would be a very different thing to stopping fishermen fishing just off their own coasts, would it not?—That is so. There would be a difference. I think I perceive what you are driving at, Sir. The question was asked early in the inquiry, as to extending the national limitation, that is to say, that in the case of a prohibition of a further area, whether it be enforced by the different nations or whether it was to be enforced by the nation off whose coast it belonged. That, of course, would be giving to them a prior claim, that is to say, it would be extending their national limitation. That, of course, I hope will not be done, that is all I can say, and that some way may be found out of the difficulty.

Chairman—continued.

459. As a practical fisherman, and having constantly seen the contents of a trawl, might I ask if you have ever noticed what classes of fish were mostly to be found which were immature or small. Could you distinguish at all between the various varieties which are most often found?—In those localities that I speak of, plaice, sole, turbot, and brill.

460. But you do not distinguish between them particularly, do you; is there more of one than another?—No. On those grounds you would find them in bulk in similar quantities.

461. You are aware, of course, that there are many small varieties of fish which go to swell the bulk of what are termed immature fish. There are a number of small varieties of the sole which never grow to be full-sized?—Yes.

462. And, of course, all these small varieties go to swell the bulk of the immature fish, do they not?—Yes; but I should like to say they are very few indeed. In a haul of say three tons of immature fish on those particular prescribed limits, you would not find any of those small thick-backs and those small species of sole. They are a rare kind of fish.

463. I know that we found in some trawling experiments I took an interest in, an enormous quantity of dabs?—That is so, but the north dab is not found much on the east side of the North Sea, you must go a considerable distance down.

Thursday, 4th May 1893.

MEMBERS PRESENT :

Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Furness.
Lord George Hamilton.
Mr. Heneage.

Major Jones.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.

MR. MARJORIBANKS IN THE CHAIR.

Mr. H. TOOZES, called in ; and Examined.

Sir *Albert Rollit*.

Sir *Albert Rollit*—continued.

464. YOU are an alderman of Hull and ex-mayor, are you not?—That is so, and I may say also I am a magistrate.

465. I believe you have had a life-long experience in relation to the sea fisheries industry, both at sea and on shore?—Yes, over fifty years.

466. And I believe you are one of those who migrated from Devonshire to Hull with the fisheries?—That is so.

467. How many years ago?—That was in 1846.

468. Can you tell us something about the progress of the sea fishing industry at Hull, say from 1846? Give it to us very briefly at first?—In 1846 the fishery of Hull was confined to a few fishing smacks only ; steam was unknown, and it was very different from what it is now. In those days there was abundance of fish to be caught in any part of the North Sea. We have gone on increasing the fishing business, and the fishing industry has been so improved by the facilities on land and at sea that we have now come to, we may say, the “besom” part of the business, that is to say, we have almost swept the North Sea of ground fish.

469. How many steam trawlers are there at Hull now?—There are now working out of Hull about 150, in round numbers.

470. I think that is the largest number of any port, is it not?—That is so.

471. How many sailing vessels are there?—About 300 smacks, sailing vessels. I was going to say there are rather more than 150 steam trawlers, but some of them have migrated, so to speak, for various reasons, to other parts of the country, and probably may return again in a short time.

472. The population of Hull is about 200,000, is it not?—Two hundred and thirteen thousand.

473. How many of that number are directly or indirectly dependent on the fishing industry of Hull, roughly?—I should say at least 50,000.

474. Should I be right in saying that a capital

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of 2,000,000 *l.* is involved in the industry altogether?—You are correct.

475. How many fishermen hail from the port?—There are 150 steam trawlers with eight hands on each, which is eight times 150, and 300 smacks with five hands on each smack.

476. That is rather a long sum, and I prefer to put the figure to you, is it 3,000?—That may be so; there would be a great many more on shore than there is on the sea.

477. I mean the fishermen hailing from the port; will you tell the Committee what you consider to be the difference, if any, between the produce of the sea as it was and as it is?—Numerically speaking, there is as much fish caught now as I believe there was 30 years ago, but that can be accounted for by the catching power; the catching power is so increased now to what it was then.

478. There is another difference is there not, as to size?—If we were to go into the numbers of the fish, there are 10 times as many caught now as then. I have a sample here consisting of 20 fish weighing a pound and three-quarters, a little less than an ounce and a half each, and they are a fair sample of the fish landed at Billingsgate this morning. (*The witness produced the sample.*)

479. Were those bought in the open market?—Those were bought in the open market.

480. And are they a fair sample of what are being sold in the market?—That is so; I ordered them not to take the smallest or largest, but to take a fair sample.

481. How much fish is there there?—There are 20 fish here, weighing a pound and three-quarters.

482. What did you pay for them?—I did not buy them.

483. What are the species?—Plaice; there are a few dabs amongst them,

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484. Would

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Mr. TOOZES.

[Continued.]

Chairman.

484. Would you mind separating the dabs from the plaice?—Certainly.

485. Then more than half of your 20 fish are dabs?—I believe that is so.

486. That was rather the point I tried to bring out the other day: that amongst these immature fish caught in the trawl a great proportion are dabs which do not get to a large size and which are not of a first marketable character?—That is so.

Sir Albert Rollit.

487. But, speaking of the plaice, those are not what you would call sizeable fish, are they?—No, it is very much undersized; we believe they are like lambs this year and like sheep the next.

488. I suppose those small fish are caught partly because of the accumulation of fish in the trawl, it is not a question of mesh with those, is it?—No, not at all.

Mr. Pinkerton.

489. If you increase the size of the mesh would it have any effect?—Very little, simply because the mesh draws up through the pressure on being pulled through the water. The mesh is drawn together and closes. If the mesh were open then I admit these small fish would go through.

Sir Albert Rollit.

490. Then also the accumulation of fish in the trawl prevents exit to any great extent, does it not?—That is so.

491. Speaking of trunks of plaice, and taking, say, 10 or 20 years ago, how many would a trunk of plaice include?—From 35 to 40 good saleable fish.

492. Now, what is an average trunk of plaice?—I had a trunk counted out some little time back, and it counted out 1,086, all plaice; there were no dabs amongst them.

493. What would be the value of a trunk of plaice in former days?—They ranged from 8s. to 12s.

494. Have they been as low as 4s. or 5s.?—Yes, when there has been a glut in the market.

495. And what are they worth now?—30s. to 32s.

496. And sometimes, I believe, as much as 55s.?—That is so.

497. Leaving plaice, what do you say as to the decrease in size of soles or otherwise?—Soles are fish I can scarcely speak to on our grounds at all, because we have lost sight of them altogether. We used to catch them abundantly, as many as would suit our purpose to send to market. We did not send plaice or had-docks in 1846 to market at all, because soles were sufficient to pay the fishermen to go to sea to catch them. Now they are completely annihilated.

498. Do you consider that the fishing grounds have been materially interfered with by this process of catching all that comes to the net?—I think we have improved certain parts of the ground where we used to catch plaice, because in those days when we caught abundant plaice

Sir Albert Rollit—continued.

they were thin, flabby, scarcely eatable fish; but by the continual fishing over those grounds we stirred up the soil so that the small shell-fish come to the surface and the fish eat them, and consequently get into good condition.

499. That is as to certain grounds, is it not?—Yes.

500. But taking such a ground as 20 or 25 miles from Heligoland, what is the class of fish caught there?—This (*pointing to the sample*) is the class of fish caught there, and this is what we complain against. In the old days, if a smack went and got one catch of those small plaice, the skipper and crew would become disgusted and bundle them overboard as soon as possible, and go further out to sea.

501. What proportion, taking the ordinary heave of the trawl down for 4, 5, or 6 hours, not at this part of Heligoland, but in the other parts of the North Sea, would there be of those small fish to the whole?—Very few indeed.

502. But when you get to that district and similar districts, you get what proportion?—Ninety-five per cent., and more than that, of this class of fish.

503. Could they be thrown overboard afterwards and live?—Well, a great portion would live, but if you get these young fish into the net for hours they stifle and kill each other.

504. Can you give the Committee any idea of the proportion that might live if they were thrown overboard quickly after the trawl was brought up?—I believe if the trawl was only kept down from two to three hours, 75 per cent. of them would live.

505. But if it be kept down six hours, what then?—Then the death rate would be very much heavier.

Chairman.

506. Would you accept Sir Edward Birkbeck's proportion of 10 per cent.?—No.

Sir Albert Rollit.

507. Can you speak from personal observation?—No, not exactly; I should not like to do that, because my knowledge as to that would be nearly as bad as Sir Edward Birkbeck's. I should only speak from imagination.

508. Can you suggest for all this any remedy. First of all, have you anything to say about other species of fish such as turbot?—Turbot are not quite so plentiful as they used to be.

509. Are they more undersized?—No, we do not catch so many undersized turbot. I think we find very few undersized turbot where these small fish are now being caught.

510. First of all, I take it that it is clear that this is very injurious to the fish, is it not?—That is so.

511. And ultimately to the consumer?—Yes, and simply because, as I said before, I believe they are lambs this year and sheep the next. These fish, the plaice, would be mature fish next year if allowed to stay in the sea.

512. But

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Mr. TOOZES.

[Continued.]

Chairman.

512. But it would be no good making regulations with regard to those dabs, would it?—Vulgarly speaking, I may say, what is sauce for the goose is sauce for the gander. What would prevent the small plaice would prevent the small dabs from getting into the nets.

513. Would there be any advantage from a commercial point of view in protecting these small dabs?—Yes; they are eatable fish and fetch a good price in some of our markets.

514. What about Billingsgate Market?—In Billingsgate Market they are not so valuable.

Sir Albert Rollit.

515. But in Devonshire they form part of the food of the people, do they not?—They are very much more appreciated there.

516. What size do you see them there?—You do not see any there so small as those.

517. What is the size there?—They run from 10 to 11 inches that is to say, measuring from the tip of the tail to the tip of the nose.

Chairman.

518. But the dab is a small species, is it not?—Yes.

519. And, practically, well-grown dabs would come under the proposed limit of 12 inches, would they not?—Yes, they may do that.

520. Therefore they would form a very large proportion of the immature fish, taking a limit of 12 inches to be the fair measure?—That is so.

Sir Albert Rollit.

521. But you have not heard any proposal to apply the limit to fish of that class, have you?—No.

522. It has only been proposed to apply the limit to certain fish by the Sea Fisheries Association, I believe?—That is so.

Chairman.

523. Then how are you going to separate these various resembling classes of fish from one another on the deck of the trawler; it would be a very lengthy and difficult proceeding, would it not?—No, I think not; it would in these cases, of course, because they are moved by shovels and scoops; the men cannot handle the great bulk of fish; they could not carry on the work if they had to pick them all over, so they use a shovel and scoop. Besides, if you sent the fish into the market for sale, the salesman or purchaser would very soon recognise whether they are dabs or plaice, and would not buy a box of dabs for a box of plaice, be they ever so small.

524. Quite so, but the whole benefit of your system is the way these fish are going to be dealt with on board the vessel?—No, I think not.

525. Surely your idea is that you will throw these small fishes back into the sea, in order that they may grow to allow them to grow to sheep from lambs?—Yes.

526. Then if you are going to retain dabs, which are a small class of fish, and sell them, how are you going to expect the trawlers to

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Chairman—continued.

separate this mass of dabs from the small plaice mixed up with them?—They would not come into the market at all.

527. But they would not put the plaice back into the sea, would they?—The small plaice they would.

528. You yourself told me that on the deck they would not be able to separate these various species of fish one from the other?—That is so.

529. Then, if you do not separate these various species of fish from one another, because you want to sell the dabs in the market, it means that you do not put the plaice back into the sea; they are not brought into the market, therefore they are absolutely wasted?—No, I do not think so.

Sir Albert Rollit.

530. I put it to you, on consideration, would it be possible to separate the various species on the deck of the vessel and to throw the plaice overboard?—Most decidedly it would be possible to do so, but I want the Chairman to look at it in this light: do you think they would take the trouble of picking out those dabs for the value that they are from the plaice, to bring them to market and throw the small plaice overboard, supposing the law permitted them to do so? Because these dabs, I should say, would not pay the carriage or cost of bringing them to market.

531. You think they all might be shovelled overboard without loss, do you?—Quite so; they would all go overboard together.

532. Would that apply to Plymouth?—I have been fishing from Plymouth and Brixham, and never saw any quantity of these sized fish caught there in my life.

533. Your view is, I take it, that when the fish is really so small as that, or under 10 inches, it may be indiscriminately thrown overboard?—That is so.

534. But in the neighbourhood of Plymouth and other southern ports you think there are large dabs and other fish which might be kept and brought into port?—That is so.

535. What remedy do you suggest for this state of affairs; what would you recommend the Committee to do?—Not to allow the fish either to be landed or sold.

536. Do you mean certain species of fish below a certain size?—Yes.

537. Would you propose merely to make that a national law or an international law?—It would be no use making it only national. If it were not international it would not be workable, because the people up and down the German coasts have lots of steam trawlers, and they would catch the fish, and bring them and land them in our markets, while our men would be prohibited from doing it if it was not made international. We have them now coming to Grimsby and Hull with fish, and we have not alone the German but the Scotchman from Dundee and that neighbourhood, who catch these small plaice on purpose to bring them to Hull and Grimsby.

538. Can you tell me, in addition to that, can

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Mr. ToozeS.

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Sir *Albert Rollit*—continued.

they take them into Ostend, or is that practically stopped; you know there is a law there?—I think they can take them in there, pack them in boxes, and send them across here for sale.

539. You know there is a law there prohibiting their sale, do you not?—Yes, but that does not prohibit them sending them here; they are only prohibited from sending a certain class of fish there.

540. But, if they sell them on the quay to go inland, that is selling them, is it not?—They do not do so.

541. Do you know whether they can take that small class of fish into Ostend, notwithstanding the law or not?—I do not know. I am aware of this, that a great quantity come from Ostend to Billingsgate Market for sale, as many as 2,000 boxes of a morning.

542. Which come from Ostend?—Yes.

543. Have they been landed at Ostend?—Yes, I should say so.

544. Do they come by boat across?—Yes.

545. What do you say as to the practicability of closing certain areas during part of the year?—That would not suit our books at all as fishermen.

546. You think not?—No.

547. Not to close certain areas; for instance, that area off Heligoland?—The fact of the matter is, the fishermen would close it themselves if they were not allowed to catch the fish. If they were unable to sell the fish they would very soon go somewhere else.

548. You do not think any further legislation beyond the prohibition of landing or sale would be necessary?—I do not think it would.

549. What do you think about close times?—That means ruination.

550. Would that be practicable?—It is practicable, and, of course, if the law was made, we should have to obey it, but it would be good-bye to two-thirds of the fishermen and all their industry.

551. What do you think about the possibility of the artificial production of fish?—That is a question that I am not at all versed in. I think it is a question as to whether artificially hatched fish migrate or not. I think, if they were taken out of the tanks and turned into the sea, it would be very questionable if they would be sheep next year.

552. Then do you adhere to the proposals of the National Sea Fisheries Association, that the landing and sale of certain classes of undersized fish should be prohibited by law?—That is so.

553. And you think nothing more would be required, do you?—I think not.

Mr. *Pinkerton*.

554. I understood you to say that 75 per cent. of the small fish would live if thrown overboard?—Yes.

555. How could you ascertain that, if they were shovelled overboard?—As I said before, if the trawl was drawn up in about two hours after it had been put into the sea the fish would be much stronger. You can see when the fish

Mr. *Pinkerton*—continued.

are kicking about a deck whether they are alive or not, and when you throw them into the sea you can see them swim away.

556. Supposing we pass some law compelling the trawl to be lifted every two hours, how are you to ensure that law being carried out?—I do not think you could do so. You would have a very great deal of trouble to do it.

557. In your opinion is it better to sacrifice the small fish than to utilise them for food?—Do you mean to keep them and let them die?

558. I mean sending them to market. It was stated that when a trawl is kept down for six hours that over 50 per cent. of the fish are dead when the trawl was lifted?—That is my opinion.

559. Are you of opinion that it is better to throw over those dead fish than bring them up to London in order to sell them for food to poor people?—My opinion is that it is better to prohibit them being sold, because the people would not go and catch them and sacrifice that 50 per cent.

560. But I understood you to say that owing to the nature of the trawl and the strain upon it the mesh was closed?—That is so.

561. And you could not possibly prevent small fish being caught?—That is so.

562. Consequently, no matter what law is passed, you are bound to catch small fish, are you not?—That is true, but these small fish congregate together at certain times of the year to that extent that it pays people now to go and catch them, whereas, as I said before, it would be a greater benefit to the general public if they were allowed to remain till the following year. If they were not allowed to land or sell them, the fishermen would make their own laws, because they would not go and catch them.

563. I suppose by altering their fishing ground and going further out?—Just so. For instance, we have two fleets of vessels in Hull, sending fish direct from the fishing ground to London by cutters. Now, one of those fleets will not go where those small fish are, but keep away to the Dogger Bank and thereabouts. The other fleet say, "Now, it will pay us to go and catch the small fish, because the other fleet is not there." Take last Monday, for instance. There was a quantity of fish in the market brought by this one particular fleet, which was sold at a rate whereby the owner only cleared a shilling a box, because of the quantity of small fish. That is a deprivation to the general public.

Mr. *Buchanan*.

564. I understand the object you have in view in preventing the landing and sale of undersized fish is, as you said about the plaice, that those which are now lambs might become sheep?—Yes.

565. That could only be supposing they are thrown back into the water alive, could it?—That is so.

566. What is the ordinary duration of time during which the trawl is down?—Five to six hours.

567. They are by that time practically all dead,

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Mr. TOOZES.

[Continued.]

Mr. Buchanan—continued.

dead, are they not?—Yes, I should say quite 95 per cent.

568. Substantially, supposing you passed the regulation you have in view, your lambs would be dead lambs, would they not?—No; they would not be interfered with at all. That is the object we have in view. If the Government passes a law prohibiting the landing or sale of them, the fishermen then would make their own laws, because there is not sufficient large fish among the small ones to get them a living. It is all small or none.

569. But, as I understand, you object to prohibiting fishing within certain areas?—No, I do not.

570. I thought you said so?—I believe I made a mistake; I wish to withdraw that. I do not advocate that. I maintain we have a right to have a limited area.

Sir Albert Rollit.

571. You said the reverse?—Yes, I believe I did.

Mr. Buchanan.

572. Men would still go and fish, as I understand, to get the big fish?—Not amongst the small ones.

573. Then, will they abandon the area in which those small fish are found?—They would do so.

574. Do not you think it would be a more efficient remedy to prohibit the capture of fish within specified areas than to pass a law forbidding the landing and sale of these undersized fish?—No; you see those fish accumulate together from 10 to 15 miles off the land; not 10 miles off frequently. Therefore, if they were to catch them there, there would be as much objection as it is now to their going within a limited area.

575. But you say that in consequence of the trawl being down as long as it is now 95 per cent. of the fish are killed?—I think so.

576. Now, as to soles you said they were practically annihilated, did you not?—Yes.

577. What do you attribute that to?—I attribute that to there being so many of them caught when they were young and small and immature fish.

578. Do you attribute it to over-fishing generally?—Yes, I think so.

579. What you described in the early part of your evidence as having swept the North Sea?—That is so.

580. And this sweeping of the North Sea has principally taken place since the large development of steam trawling, has it not?—Yes; but there was a great diminution of soles before the steam trawling came into operation.

581. When you spoke about the trawlers migrating to other parts, did you mean other parts of the North Sea?—No; some have gone to the Bristol Channel, some have gone to the Bay of Biscay, and some to Ireland.

582. And also to the northern parts of the North Sea?—Yes.

583. Are these fish that you have brought here to-day saleable fish?—They are saleable because they are being sold.

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Mr. Buchanan—continued.

584. Are they caught in this district round the coast of Holland?—Yes.

585. Is your experience and the experience of the Hull trawlers limited to that area?—No.

586. Do they generally go to the area along the south-eastern shores of the North Sea?—The vessels fishing out of the Humber from Hull and Grimsby fish from Camperdown down to the mouth of the Scheldt; of course some of them have gone up the Baltic above the Skawe.

587. Are the greater proportion of the small fish caught in one particular area?—They are.

Mr. Heneage.

588. What is the difference between your objection to close time on certain areas and drawing limits of areas in which to fish?—Because we should make ourselves so liable to capture ourselves, for we should be captured; that is to say, our vessels would be captured because you could not get our fishermen to understand anything about the limited area as to lines. They might be four, or five, or ten miles outside that line, and would declare they knew nothing at all about it, and we should find them being towed in by one of Her Majesty's gunboats because they were out of their limits, but they would declare they knew nothing at all about it.

589. But I understood you to say that you were in favour of limits being placed?—What I meant by that was the inshore limit; the three-mile limit. We have an area; we are not allowed to trawl within three miles of the land.

590. You were referring then entirely to territorial waters?—Yes, that is so.

Mr. Buchanan.

591. These fish are not caught in territorial waters, are they?—No, they are not; that is where the difficulty comes in, and, therefore, I think nothing but the prohibition of landing and sale can deal with this particular question.

Chairman.

592. Those fish which you have produced you say were exposed for sale in Billingsgate this morning?—Yes.

593. In what way?—They were in a box.

594. Were those 20 fish taken out of a box?—That is a portion of a box brought by the steam fleet that I was referring to just now.

595. Were the fish in this particular box all of those sizes?—I told the man to get me a fair sample. I said, "Do not pick me the biggest or the smallest, but pick a fair sample," and I suppose he has done so. I did not see them in the box.

596. That is not a sample of the box, but a sample of one particular class of fish that was in the box; you do not mean that the whole box was like that, do you?—Yes; I should not think there would be a dozen fish larger than that in the box.

597. What are those fish sold for; who buys them?—They have ranged from 5s. to 8s. per box

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Mr. TOOZES.

[Continued.]

Chairman—continued.

box because there happens to be only one cutter in the market to-day.

598. Who buy those fish?—Costermongers buy them for the fried fish people, who boil them or fry them or stew them. I do not know exactly how they cook them; I have never had the pleasure of eating any of them.

Mr. JOSEPH HENRY BARBER, called in; and Examined.

Sir Albert Rollit.

601. You are Assistant Secretary of the National Sea Fisheries Protection Association, are you not?—Yes.

602. Do you produce several bottles of fish which have been sent to you from the district associations?—Yes, from the Lancashire Sea Fisheries district.

603. Will you read each of the labels?—I have here a bottle of flounders exposed for sale in St. John's Market, Liverpool, on 28th April 1893. The fishmonger stated that he had received them from Ayr. Then the next sample is labelled "Fish purchased in St. John's Market, Liverpool, on the 28th April; whiting and haddock."

Mr. Buchanan.

604. What is the first sample composed of?—Plaice and dabs. The next sample is labelled "Purchased in St. John's Market, Liverpool, 2nd May 1893, price 8d. per lb. It takes nine of them to make one lb., length of fish from seven to eight inches." The next is labelled "Plaice bought in Preston Market on the 19th April, seven to the lb., price three half-pence." The

Chairman—continued.

599. Are they perfectly saleable?—Yes.

600. Did you hear Mr. Alward's evidence?—No, I did not desire. I am sorry to say we are very busily engaged in Hull just now, and are likely to be for a few weeks longer, I think.

Mr. Buchanan—continued.

next sample is "Fish purchased in Preston Market, 29th April, plaice nine inches in length." Then the next is "One sole, length eight inches, bought in St. John's Market, Liverpool, 6d. per lb., 16th March 1893."

Sir Albert Rollit.

605. It may be interesting to the Committee to know that that is a little larger than the Belgian limit for soles, which is 7 1-5th inches, I think; is not that so?—Yes.

Chairman.

606. For what purpose do you produce these fish?—These are samples of fish exposed for sale in St. John's Market, Liverpool, and in Preston Market.

607. I do not quite understand what the object of producing all these various samples of fish is?—The object is to show the fish which is now marketed.

608. I do not think that is disputed at all, is it?—No; but that was the object in producing them.

Mr. CHARLES JEFFS, called in; and Examined.

Sir Albert Rollit.

609. I BELIEVE you reside at Grimsby?—Yes.

610. You are a director of several trawling companies and ice companies, and the allied industries in Grimsby connected with fish, are you not?—Yes; I am a director of two of the largest companies trading out of Grimsby, namely, the Great Grimsby Company, which owns 100 sailing trawling vessels, and of the North Sea Steam Trawling Company, which owns 17 steam trawlers.

611. I suppose the catching power of the Humber at Grimsby and Hull and the North Sea generally has very vastly increased recently?—Yes; the steam trawling has increased, but the sailing trawling has not.

612. What size of fish is generally caught and landed now as compared with former times?—Formerly they were all large fish that were caught.

613. When you speak of large fish what size do you mean?—Plaice weighing 2½ lbs. up to four or five lbs.

614. What about soles?—We used to catch a few small soles, but they were of very little

Sir Albert Rollit—continued.

value then; they were chiefly 1½-lb. soles up to two or three lbs.

615. Are there any other fish which you wish to specify and contrast between then and now?—Soles, turbot, and brill; all flat fish.

616. Taking turbot and brill, do they remain about the same size as formerly, or are they decreasing in size, too?—They are decreasing as well.

617. Much or little?—Not so much as the plaice and soles, still they have decreased in size.

618. What was the general character of a trunk of fish, say, 10 or 20 years ago?—There would be then between 30 or 40 in a box, and now they run from 70 to 90.

619. To make up the same weight of eight stone?—To make up the same weight of eight stone, and from the same grounds.

620. Those fish are caught on the same grounds, are they?—Yes.

621. To what grounds do you refer?—I refer to the following: the Well Bank, the Sward Bank, the banks of the Lemon, the Brown Bank, off the Texal, where we used

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Mr. JEFFS.

[Continued.]

Sir Albert Rollit—continued.

used to catch a large quantity, coming, then, to the Dogger Bank, and the Great Fisher Bank, and the Little Fisher Bank, down off the Head, and right away till we come down to the Holman grounds.

622. So that there has been a general decrease in the size of the fish caught throughout the North Sea, has there?—Yes.

623. Tell us what specially occurs on the eastern side?—On the eastern side they are catching fish, but not as far as Grimsby is concerned, I am happy to say; because our fishermen have, by their own will, for the last two years, left that eastern shore alone. We had a conference in Hull, and we came to the understanding that for that year, at least, we would not fish for these small fish, on account of the great decrease of the fish. There were not any large fish really to catch. Grimsby has honourably, with one or two exceptions, carried that understanding out, but I am sorry to say that there is a fleet of vessels upon it now, catching nothing but the small-sized fish, of which you have had a sample produced, and of which I have also a sample. Of course about 90 per cent. of a box of fish is really not saleable at all; they are catching really nothing but immature fish.

624. Is the effect of that that you could, a few years ago, catch as much flat fish in 24 hours as you can now catch, with greatly improved instruments, in a month?—Yes. Formerly we could go on the Dogger Bank, 60 to 65 miles from Grimsby, I have done it myself, tow for two hours in a small vessel, with a small trawl, and we could catch more fish in the two hours or three hours, then towing over something like five or six miles of ground, than we can now catch with a steam trawler, with gear quite as large again, towing over 300 miles of ground. They cannot catch more than one-tenth part of the fish.

625. Do you attribute this result to the general over-fishing in the North Sea, and to the catching of those immature fish?—My opinion is that, providing we could stop the catching of the immature or undersized flat fish on the eastern shores, more particularly the North Sea, would be recouped in about three years.

626. How many vessels are there on that eastern shore on this small ground?—There are about 1,000 vessels catching the small fish now.

627. Regularly plying there?—Regularly plying there from April up to now.

628. What would each of them catch per night?—I have underrated it, but I would rather be under than over. For instance, on Monday night last, there was one vessel which in two hours caught three tons of that small fish. But I have put it at half a ton per vessel per night, and for the month of April the vessels have caught 14,000 tons. Each hundredweight would average about 800 fish, 16,000 to the ton, or 224,000,000 small fish for the month taken on those particular grounds. The average value has been about 5s. per hundredweight, or a total value of 73,000l. If these fish had been allowed to grow to an average marketable sized fish, they

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would have produced in weight 112,000 tons, which would have realized 1,680,000l.

629. Will you tell the Committee what the effect upon the trade of Grimsby has been; for instance, take the salt fish trade, and give an instance of what the consequences have been?—Some few years ago, and for many years, we were in the habit of selling these large plaice which we brought to market, and exporting them across into Germany and Belgium. Our export trade now has gone down to vanishing point; in fact, we have no fish to export, only a few that we bring from Iceland. We have sent three vessels to Iceland, we have explored Iceland, and found some plaice there, and we are sending our steam trawlers now a thousand miles to bring these plaice in. When they come they are not of very good quality; consequently we sell them chiefly for salting purposes, and these plaice are then exported to Belgium and Germany.

630. Of course the effect of that has been very disastrous to trade in Grimsby, has it not?—So much so that the sailing vessels have not paid us for sailing them for several years now. I should say that there are scarcely 10 sailing vessels out of Grimsby that have made their expenses during the last two years; there really has not been the fish to catch.

631. What remedies do you suggest for this state of affairs?—I think we should close certain areas which are well defined and mapped out on this chart.

632. Name a few of them?—From the Elbe right away up as far as Skelling and Scowing, for the small fish are caught all along those shores.

633. Your proposal, then, I understand, would be purely to extend the shore limit?—I should be very chary about extending the limit. I do not know how that could be done. But if we could close it for certain months it would be advisable.

634. What months?—Say March, April, May, and June.

635. Close it to what extent; how far from the land would you think it necessary to make a closed area?—As to some portions of it, I should think it would be better to close it as far as 10 to 12 miles off. In other places it would not be necessary to close it so far.

636. And some parts further still?—I should say 10 to 12 miles would be the extent.

637. We have heard sufficient of that shore district. Are there any other well-known areas in the North Sea which might be similarly inclosed for a time?—Yes; on our own shores, namely, the Lynn Deep, and Smith's Knoll, and that portion where small soles abounded for years, and have been caught by the million. I thoroughly believe that one great source of the mischief that has been done, by the people of Yarmouth and Lowestoft in particular, has been the sale of what we call tongue soles four, five, six, and seven inches in length.

638. When you speak of Lynn Deep is that the same as Boston Deep?—Yes.

639. That is the Wash really, is it not?—Yes. I might say that in former years we used to get

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a very large number of small turbot from just outside the Humber, on the southernmost portion of the Humber, on the Lincolnshire coast, and even in the Humber itself I have known our small fishermen to pull on shore 5 and 6 cwt. of small fish, just to get at a few smelts, and the small fish would be left, of course. They always fish for the smelts on the receding tide, and the fish have been left on the shore to die; they could not get off again.

640. Does that practice continue?—No; I might say now we have very few small fish in the Humber, so that they cannot do it, because there are no fish to do it with.

641. You have given us areas on this side; are there any areas in the North Sea itself generally that you think might be similarly closed?—No, only those which I have just mentioned.

642. Then it really very much comes to a question of protecting areas where the shore is very much shelving?—That is so.

643. What would you say about a close time or times as distinguished from close areas?—I think that is quite impracticable, almost impossible, for the fish start to spawn (and I suppose that is the time when one would say there should be a close time) plaice in January, cod in February and March, and then we come to the turbot, brill, sole, and the lemon-sole, and those fish, one or the other, continue to spawn, and their spawning season goes on until September.

644. So that the whole period over which different species of fish are spawning is how long?—About nine months.

645. Practically nearly the whole year?—Nearly the whole year.

646. That is your answer to that suggestion?—Yes.

647. Will you tell me what you think about prohibiting the landing and sale of certain species of fish below a certain size?—The prohibition of landing and sale, I think, would have the effect that we are seeking, namely, to replenish the North Sea.

648. Why?—Because our fishermen would not go and catch the small fish; it would not be worth their while to go and pick out the fish if the size was made sufficiently large to pay them to land it. I have brought with me a plaice 11½ inches long, and also a sole 7½ inches long.

649. Were these bought in the market?—These were bought in the Billingsgate Market this morning; that is a 11½-inch plaice (*producing a fish*).

650. That plaice which you have produced is an inch and a half larger than the proposed limit of the association, is it not?—Yes, that is so; but there is very little on that fish when it is cooked. It is of very little service, but there it is. I, of course, like to go with the sizes which are named, and that is 10 inches for a sole.

651. And that is the size which it is proposed to make saleable, is it?—Yes.

652. Perhaps I had better ask you a question suggested by the Chairman to the previous witness. When the trawl is hauled up on these inshore grounds, what are the contents, as regards small fish?—Chiefly plaice. I should say, at the

Sir Albert Rollit—continued.

present time, they consist of quite 90 per cent. of small plaice.

653. And the rest dabs?—No; there are very few dabs among them, notwithstanding the sample which Alderman Tooze handed in. I do not know whether you looked at them minutely, but a dab-plaice is rough, and a plaice smooth; consequently you will be able to see one from the other. But I have been fishing amongst those small fish myself, and there are very few dabs; the catch is chiefly plaice.

654. Tell the Committee, as you have spoken of personal experience upon the haul of the trawl, what percentage of the fish, if thrown overboard, would live?—The percentage would be very small. These fish are caught, as you probably know, and go down into what we call a coddend and get smothered, and consequently there are a very few of them that will live. I should say quite 90 per cent. of them would be dead when they are brought up.

655. Would that be so if the trawl were not down for so long a period?—If we could make one-hour hauls it would make all the difference, and you would get a very large percentage of them alive, but you would want a policeman for every vessel, to see that they hauled the trawl to time, so that that is not a practicable thing to do.

656. Tell me, lastly, do you approve of the proposition of the Sea Fisheries Association to prohibit landing and sale, and do you think that would be an effective remedy?—Yes, I do.

657. In preventing the vessels going to those places where this stuff is caught?—That is so.

Colonel Cotton-Jodrell.

658. You said, I think, that you were in favour of closing areas for certain periods?—Yes.

659. We have had some evidence directly to the contrary of that, and it is said that it would be impossible for the fisherman to extend the areas, and that if they were caught and towed into harbour by a gunboat, the fisherman would plead he did not know he was off his ground?—I would not hold that opinion myself. I think myself that the fishermen do know the areas pretty well, and if they knew they were not allowed to go on to certain grounds they would not go.

660. A good deal of point has been made by different witnesses as to the fishermen being quite alive to their own interests, and that they would throw all undersized fish back, or would naturally not wish to kill more than they could help, for the protection of their own interests; that is so, is it not?—I am afraid not; I am afraid the fishermen are not alive to their own interests. If they were at the present time, knowing what they do know, as to the scarcity of the fish in the North Sea, and that they are killing the goose every day which lays the golden egg for them, they would never go and catch them.

661. But they do go?—They do go; they are going to-day.

662. So that that brings us to the conclusion which I think all the witnesses have arrived at, that the true remedy for the present state of things

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things is to prohibit the landing and sale of these fish, is it not?—That is so.

663. Under those circumstances they would not trouble to catch them, would they?—I think not; it would not be worth their while.

664. So that they would be sufficiently alive to their own interests in that respect, you think?—Well, if they knew if they were not allowed to land it, they would come to the conclusion that it was no use going there; and I may say, as far as Grimsby is concerned, that I do not think that there is a single fisherman who is not in thorough accord with our opinions. I am president of the Fish Merchants' Association, and I might say that we issued a circular to all the merchants in Grimsby the year before last, asking them not to buy or purchase any small fish from any vessel which brought it in, and that had effect on fishermen. They said, "What is the use of our catching it, if we cannot sell it?"

665. Do the fishermen from Grimsby and the fishermen from Hull practically use the same grounds?—Yes.

Mr. Buchanan.

666. You said there were about a thousand boats fishing along this part of the shore, did you not?—Yes.

667. Are they principally British?—No; there are a good many German and Holland boats.

668. What sort of proportion are British ships?—Not more than probably one-third.

669. Then, of course, any arrangement would have to be international, to deal with this matter, would it not?—Yes, so far as closing those areas is concerned.

670. And even as regards the landing and sale?—You see the small fish now are landed in Hamburg and other places and sent over to our English markets, and if it was prohibited in our own markets the foreigners would not be allowed to send it to our English markets.

671. But it could not be effective unless it were international, could it?—I might say, our vessels being so much larger and more powerful, we take out of the sea a great many more fish than they do, and also that they make very short hauls, consequently quite 50 per cent. of their fish are alive, and when sorted they throw the small overboard.

Chairman.

672. But, as a matter of fact, these foreign fishermen catch a larger proportion of small fish than we do, do they not?—Not at the time of year. Some of our vessels, take a steam trawler for instance, can kill in one night as many of these small fish as one of these smaller vessels will kill in a week.

673. I can understand that, but taking the proportion of the catches the foreigners really catch more small fish than we do, do they not; I mean you will find fewer big fish amongst the foreigner's catches?—That is so, because they are smaller vessels, and do not go into the deep sea as we do.

674. And you find your large-sized vessels catch a larger proportion of big fish, do you not?
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Chairman—continued.

—It makes no difference, only that the larger trawls spreads over a larger area of ground, and consequently take in more fish.

Mr. Buchanan.

675. You said, I think, at the beginning of your evidence, that your ships were not fishing on this ground?—No; only two or three vessels out of the whole Grimsby fleet fish on this ground.

676. I understood you to say that the ships belonging to the company of which you are a director do not fish in that ground?—No; we have not gone there for four years.

677. Where are you fishing now?—On the Doggerbank.

678. I thought you said you were going up towards the Norwegian or Iceland coast?—Yes; our steamboats are going up to Iceland.

679. Is there a general movement of the large steam trawlers from Grimsby and Hull towards the northern and other parts of the North Sea?—We have fished as far north now as it is possible for us to fish until we get to Shetland or Iceland.

680. That is because the southern part of the North Sea has been exhausted, I suppose?—That is so.

681. So the process will go on all round the British Islands?—I do not think we should exhaust the ground provided we did not destroy the small fish.

682. This great destruction of fish has been coincident with the large development of the more extensive methods of capture, has it not?—It is only 11 years ago since we first started steam trawling, and there was a great decrease before that in the catch of the flat fish. The flat fish 20 years ago began to diminish; that is when we first set our agitation on foot. We petitioned the House some 15 years ago on the same question.

683. And it has been growing, has it?—Yes.

684. When your ships go away to the northern parts of the North Sea, where do they land their fish?—They bring it to Grimsby and Hull.

685. They bring it right back, do they?—Yes.

Mr. Pinkerton.

686. You say that a larger percentage of fish die in the large trawls than in the small trawls?—The German vessels make shorter hauls, and consequently the fish are alive, most of them, when they take the trawl up. I should say 50 per cent. are alive, and they take out the larger size, and throw the smaller into the sea.

687. Consequently they do less damage than you do with your large trawl?—Yes.

Major Jones.

688. What is your opinion as to the percentage of small fish that would live and thrive if thrown overboard after being caught?—From our own vessels a very small percentage indeed. I should say perhaps not more than 10 per cent. of them live after being thrown overboard.

689. Then how do you arrive at the conclusion that there would be an advantage if a law were passed preventing the landing and selling of small

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Major Jones—continued.

small fish?—Because they would not go and catch it. It would not pay them to go and catch it if they were not allowed to land and sell it.

690. In respect to the taking of small fish, if only 10 per cent. would live there would only be a gain of 10 per cent., would there?—Yes, but they would not be allowed to bring it to market. If they were only allowed to bring these larger fish it would meet the difficulty, but there is not more than about a stone out of eight stone of fish which they now bring of the larger size.

691. But you tell me that 90 per cent. of the fish thrown back would die?—Yes.

692. So that the gain would be 10 per cent. and the growth on that 10 per cent.?—Yes; but my answer to that is this: if we would not allow them to bring it to market they would not go and fish where it is.

693. I understand that in respect of certain areas, but what about the other areas?—In the other areas we catch very few small fish indeed, in what we call the North Sea.

Dr. Clark.

694. Would not you logically be bound to pass also a measure for the purpose of preventing the trawl being drawn so long, and compelling the British trawlers to do as the foreign trawlers do, namely, to have their trawl down only a short time; then perhaps your increase would be from 50 to 60 per cent.?—That is not practicable, I assure you. With some 2,000 fishing vessels in the North Sea, who is to say, when a man puts his gear down, say at 4 o'clock in the afternoon, whether he tows it along four, five, or six hours. In that case you would want, as I have said, a policeman on board every vessel.

695. But there are a number of men on board the vessel, and for some reason or other those men might give information, might they not?—You would not find it so.

696. I am not so sure about that. Human nature is very much alike both on land and sea. Of these 2,000 vessels what proportion do you think would be foreign and what British?—Of the 1,000 fishing these small plaice one-third is British and the others are chiefly German.

697. Then if the law were not international, the larger proportion being foreign, and there being a market for those small fish on the Continent, the practice would still continue, would it not?—But there is not much of a market on the Continent, and I am quite certain that our one-third takes as many or more fish out of the sea than their two-thirds do, because we have the more improved instruments for taking.

698. And more deadly to their undersized fish?—Yes; and we are not so careful as they are. We do not haul our trawl at so short hauls. Our men say they cannot do it, and they shovel fish into the boxes and do not sort them at all.

699. Then, as I understand, both as to size and the kind of trawl, the foreigners would have a much larger proportion of their fish live after being replaced in the sea?—Undoubtedly.

700. Then would it not be logical for us to prevent these deadly trawls and the present kind of machinery being employed, since it has the

Dr. Clark—continued.

effect of killing the undersized fish?—It only has the effect of killing them when they take them. The trawls are so much larger, and the vessels larger also, they are able to tow their gear quicker, and they take a larger number of fish than the foreign vessels do, and then we smother it, you see. By taking large quantities the fish go down into a bag or "coddend," and it gets into a mass, and in that way we kill so many, whereas with the foreign vessels they haul their trawls in by hand.

701. How would you determine areas; would you put buoys down with a flag on them, or something of that kind?—You may put buoys at the extreme ends of the areas; but our fishermen well know when they are getting on to those borders.

702. I understood from you that there had been a conference at Hull at which it had been agreed that certain areas should not be fished?—That is so.

703. But a number refused to obey the decision of the majority and still fish there?—That is so.

704. Would you make it penal to fish in those areas?—Yes.

705. Then you would require to give an innocent fisherman some indication that he was going where he was breaking the law, would you not?—I might say that the fishermen of Grimsby at the present time, one and all, say, "Make it a law that we shall not fish there; make it penal for us to land or sell and we will obey." I do not think there would be scarcely one of them who would disobey the law.

706. Then, your opinion is that the great cause of the reduction of size in the fish you are now catching is, that the fish do not get to maturity?—That is so.

707. That you catch them before they arrive at that stage?—Yes. I believe these areas named, and shown upon the chart, are not the breeding places, but they are what you may call places that supply the whole of the North Sea right away down to the Holman Grounds; because since we have been taking these immense quantities of small fish out of the sea, we find even the northern grounds giving out. We went as far as the Sleat, and got nice lots of fish there, but they are gone now, and we scarcely found any last winter.

708. Is it your idea that those grounds are good feeding grounds for the young fish, and when they get strong they go away?—That is so; when they find themselves strong enough they get into deep water. We watched that last year very closely. As the weather got cold and the fish larger they came off about 50 or 60 miles, and we got a great number of them that size and a little larger (*indicating*).

709. Supposing your theory were not true, and though you had those districts protected, the number of fish was still lessening, in the fishing interest, would you come to the conclusion that trawling should be abolished?—It would be a very sad affair if it came to that.

710. Were you a fisherman before the trawling began?—No; I served my time as a trawler.

711. And

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Dr. Clark—continued.

711. And has your whole experience been of trawling?—Yes.

712. And the result has been that you have come to the conclusion that trawling has had a very baneful effect at the present time in lessening the productivity of the North Sea?—That is so.

713. And causing a great increase in the cost of fish supply?—That is so, chiefly by taking the small fish.

Sir Albert Rollit.

714. From certain particular places?—That is so, because we do not find the small fish in the deep waters of the North Sea.

Chairman.

715. At the same time, if trawling were prohibited, there would be an end to flat fish being brought into the market practically?—That is so.

716. In order to keep the market supplied with flat fish you must have trawling, must you not?—That is so.

717. With regard to these areas that you propose to close, you consider that it would be necessary that these areas should be the subject of international legislation?—Yes. In Grimsby we know well what international law means, and the getting it would take so long that we have grown quite impatient at Grimsby, and we are very anxious that the Government should give us a law as quickly as possible to stop ourselves from landing and selling these small fish.

718. I am not speaking about the small fish. I am speaking about the prohibition of fishing within certain areas?—I was coming to that. If you do give us that, and you can close the areas afterwards by mutual consent of the International Powers, it would be so much the better.

719. Do you admit that it would be impossible for this country alone to propose the closure of any particular areas in the North Sea?—Yes.

720. I see in your notes of your evidence there is a paragraph as to the seine net of which you have not said anything?—As you know, the seine net drags ashore everything that comes within its reach.

721. And so does the trawl?—So does the trawl, only that the closer you get to the shore the smaller the fish, and hence you get the tiniest fish on the shore.

722. At the same time the seine net does not kill the fish, does it?—It does not kill it, but they do not take the trouble very often to let it go back into the sea again. I have remonstrated with them several times for that. I have said "Now you have dragged those fish ashore, why don't you throw them into the sea: the water has gone and the tide has receded. You know what damage you are doing," and the reply is "That has nothing to do with us."

723. Without the use of the seine net how do you propose to catch sprats and mackerel and so forth that are caught in those nets?—That would be a question I could not answer. That is to say you would have to use it for that purpose but still it is used for this purpose, I am talking about the trawl fishing or the flat fishing.

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Chairman—continued.

They get on some grounds large quantities of these flat fish, soles, turbot, and plaice, and where that is caught I would prohibit it, but I would not prohibit it for catching mackerel, herrings, or sprats.

724. After all it comes to this, does it not, that the prohibition of any particular sort of fishing is practically impossible, and that what you want to do is so to regulate the various methods of fishing that they may be productive of the greatest quantity of fish for the market, and at the same time do the least possible harm to the stock of fish in the sea?—That is so.

725. And in such a way that the various classes of fishermen should interfere least with one another and each be able to practice their own calling with the greatest amount of liberty and success?—That is so.

Mr. Heneage.

726. When you were speaking just now about what would be the action of fishermen, in reply to some questions you stated your opinion. Your opinion I understand is given as a man who has been a practical fisherman during the greater part of your life?—Yes.

727. From an apprentice up to a master?—Yes.

728. Not only from an owner's point of view? No, I served my time as a fisherman, and I was master of a vessel at 21 years of age.

729. And you know what under given circumstances the fishermen themselves would do, do you not?—That is so.

730. You are also decided I believe that there can be no regulations excepting they are entirely international, with the exception of a law made in this country as to the landing and sale of fish?—That is so.

731. There is one point on which your evidence was a little in conflict with that of Mr. Alward, and that was with regard to the defined areas; Mr. Alward was in favour of a close time for certain defined areas, but I understand you to say that would necessitate a close time for at least nine months, practically the whole year?—That was as to the unseasonable fish. It was not close areas but close times I was speaking about.

732. The question I asked Mr. Alward was this: "Supposing a restriction was placed with a view to the preservation of fish in particular areas, why would you restrict it to certain months in the year; because would not the fish be undersized all the year round there," and Mr. Alward seemed to think it could be done. I understand you to say it could not?—I do not think you would find any small fish on those areas in the cold months of the year, but to close them altogether would be the better plan in my opinion.

Chairman.

733. Would you say that the prohibition of the landing and sale of the small fish would have any effect on the price of fish generally?—Only that in about three years we should so replenish the North Sea that it would have the effect of bringing the price of plaice, soles, and turbot down, because

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[Continued.]

Chairman—continued.

because we should catch them in larger quantities.

Sir Albert Rollit.

734. Would it be possible to define the areas by prohibiting fishing below a certain depth of water. It is a question you know of depth, is it not?—Yes; it is a question of depth.

735. Would it be possible to say that trawling should not take place in waters above a certain depth?—No, that would not be practicable, because on the Dogger itself we get nine and ten fathoms.

Mr. RICHARD SIMPSON, called in ; and Examined.

Sir Albert Rollit.

740. You are a member of the Hull Town Council, I believe?—Yes.

741. And you are manager of the Humber Steam Trawling Company, are you not?—Yes.

742. Which has how many vessels?—Twenty-seven.

743. And some building, I believe?—Yes.

744. I believe you are connected with nearly every one of the allied industries, such as ice-making, curing, and the like?—All of them.

745. So that you may be taken to have general experience of the whole trade?—Yes, for 22 years.

746. What change has taken place in relation to the trade as to the class of the fish caught?—Plaice has got smaller to a certain extent at this time of the year; in the winter season we get larger plaice. For instance, in August and September we begin to get larger plaice in different localities.

747. Generally speaking the size of the plaice has greatly decreased, has it not?—Yes.

748. Does that equally apply to soles?—Yes.

749. To anything else?—Well, to lemon soles and turbot, and so on.

750. To what do you attribute that?—I think it is by the undersized fish being caught.

751. Is that catching limited to certain well-known areas practically?—Yes.

752. What are those areas?—From the Reef to Heligoland and from Heligoland to Skelling.

753. That is the great in-shore district of which Heligoland may be taken to be the central point, is it not?—Yes.

754. Along the Danish, Dutch, and German coasts?—Yes.

755. Is it the result that you have to go much greater distances to catch fish now?—Yes, we are finding fresh grounds out.

756. Where do your vessels go to now?—Some go as far as Iceland and the west coast of Ireland and the Bay of Biscay; we are making explorations and making fresh discoveries.

757. So far have they been attended with good results?—Some of them.

758. But, of course, that means a much greater expenditure, does it not?—Yes.

759. And cost in going those longer distances?—Yes.

760. Does it promise to be remunerative?—

Sir Albert Rollit—continued.

736. Do you get small fish there?—No.

737. What is the maximum depth you could go to in trawling?—We have gone to 75 fathoms.

Mr. Heneage.

738. Are the fish trade at Grimsby unanimous on the point that they would like to have a law at once against the landing and selling of small fish?—Yes.

739. Notwithstanding there not being any international agreement?—Yes, they are unanimous on that point.

Sir Albert Rollit—continued.

We shall be better able to tell when the season is over.

761. What do you propose as a remedy for all this?—I should certainly extend the limit to about 10 miles on the other side.

762. In other words you would prohibit fishing within 10 miles or 13 miles, which?—Say 10 miles.

763. Are there any other districts on this side or on the North Sea itself which you would limit?—I should say three miles.

764. That is so now, is it not?—Yes.

765. You think that would be sufficient, do you?—Yes.

766. What do you say about the Deeps and other places?—There are certain places which want restricting there.

767. Will that apply to the shelving coast at the mouth of the Humber and that district?—Yes.

768. Has that been much depleted?—Yes, a great many small fish have been caught in the Humber at certain seasons of the year.

769. With the result, I believe, that the general catch has deteriorated?—Yes.

770. How would you propose to define those localities?—By a limit.

771. How would you bring that limit to the minds of the fishermen?—I would have a chart and mark it out.

772. Supposing they could not take an observation, or find their position, what then? Would they always be able to tell by soundings?—Yes, they would be able to do so; but still, the best plan would be to have a landmark—some lights.

773. But I suppose they could tell by the character of the bottom generally?—Yes.

774. What do you say as to the possibility of prohibiting fishing within a certain depth? Would that be practicable or not?—I think it would, but it would be a very difficult thing. People might say they were in a certain depth, but it might be very difficult to prove whether they were in that depth or not. Therefore, I think landmarks by lights would be far superior.

775. It would be very expensive, would it not, to have lights. Do you mean lighted buoys?—Yes, having it buoyed out.

776. What

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Mr. SIMPSON.

[Continued.]

Sir *Albert Rollit*—continued.

776. What sort of police would you propose to have? Would you have the present gunboat system or a special police for the North Sea, or what?—I think the gunboat system would be best, because you would want police on every boat otherwise.

777. Would you propose to make any regulations or laws to prohibit the landing and sale of undersized fish?—International, not otherwise, or else the foreign fishermen would have a large preference over the Englishmen, I think.

778. You are clear about that, are you?—I think so; that is my opinion. In fact, I was talking to some of our captains, and their ideas were that it should be one rule, or else the foreigner would have the preference over them.

779. And the captains have a say in the matter, because our system, I believe, is to sell on the quay, is it not?—Yes.

780. And the captains and the hands take their shares, do they not?—Yes.

781. So that they are distinctly partners to a certain extent?—Yes, in that way they are.

782. What do you say about a close time?—I do not think a close time would do at all for the trade.

783. Why not?—I think not, because we are finding fresh grounds out where fish are of an extraordinary size. For instance, the soles on the west coast of Ireland are some of them six to seven lbs. each—they are very large in fact. They would be better caught in my opinion; and the haddocks and cod and ling at Iceland are very large, in fact the boats have sometimes more than they can heave in.

784. Where have you been fishing on the coast of Ireland; Galway?—Yes, right round, we are trying some experiments round there.

785. I suppose you are aware that Galway Bay may be closed next year?—Yes, and Clew Bay next year, I think. We have got some very large soles in that bay.

Mr. *Buchanan*.

786. You have been going further afield every year, have you?—Yes.

787. Because the nearer grounds are being fished out?—Yes, at certain times. We thought we would extend the fishing because we have larger boats and faster boats, and we can go a distance where the sailing boats cannot.

788. But still if the grounds near shore were all right, you would go there, would you not?—Certainly; there are certain times when they are all right. There are times when the fish set in to the Humber, and we do fish there.

789. Do you not agree with the other witnesses that the North Sea generally has been much over-fished?—Of course; this March and April the quantity of small fish which has been caught on the other side has been extraordinary.

790. But apart from small fish, do you not agree with the other witnesses that there has been a great decrease in them?—Yes.

791. In consequence of that you are going to Ireland and Scotland and the Bay of Biscay, are you?

Mr. *Buchanan*—continued.

you?—We are trying the grounds to see if they would be profitable enough.

792. And the tendency has been in Ireland to shut any areas they can against you, has it?—Yes; but there are certain places where we have caught some very large fish.

793. It is because of the destructiveness of your fishing, is it not, that those areas have been shut off?—That I do not know.

794. Probably it is not from any other reason?—It is only by going into it a little more this year we found it out.

795. Is your suggestion this, that you would have the territorial limit extended to 10 miles as to certain parts of the North Sea?—Yes, on the Dutch coast.

796. And left at three miles in other parts?—Yes; I think three miles would be sufficient on this side.

797. Do you think there is any likelihood of the Germans and Dutch agreeing to that extension when you do not propose to do anything of the same sort on our side?—I do not think it would do any harm if you said ten miles this side.

798. Are you prepared to extend the territorial limit all round?—Yes, if you like.

Mr. *Pinkerton*.

799. Did you say that Galway Bay was open to trawlers at the present time?—I do not know as to Galway Bay; Clew Bay is.

800. I suppose you are aware that very serious complaints have been made against trawling in those bays, because you interfere with the livelihood of the line-fishers?—We have had no complaints ourselves.

801. Do you know that the Galway Harbour Commissioners have made application for a gunboat to prevent illegal trawling there at the present time?—Yes, I know; but we have not been advised to that effect, or had any rules laid before us as to it.

Major *Jones*.

802. You have heard what has been said in respect of the destruction of 90 per cent. of the small fish that could be thrown overboard. Do you agree with that?—It just depends upon how long you make a haul. For instance, if they heave the trawl up in two hours, I should think 70 per cent. would live. In fact, I asked a question of one of our skippers about that particularly. He made a very sharp trip within a week, and he said he made hauls about every two hours, and I asked a question about the fish that he threw overboard. He had got none smaller than this 11½ inch one, and I asked him about the fish he threw overboard, and he said he would guarantee that two-thirds of it would live; but it all depends on the length of time the trawl is down.

803. Would there be any difference in respect of the fatality between sailing craft and steam craft?—Yes. The sailing craft make longer hauls. The sailing craft do not heave up for five or six hours at a time.

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904. And

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Mr. SIMPSON.

[Continued.]

Major Jones—continued.

804. And what is the consequence?—Of course the fish are smothered, there is not the slightest doubt.

805. More so in a sailing craft than a steamer?—Yes.

806. Have you any remedy to suggest in that respect?—Shorter hauls of course are far better, there is not the slightest doubt.

Mr. Pinkerton.

807. How could you carry out that suggestion?—That would be entirely in the hands of the fishermen.

808. How could you make a provision as to that?—I do not say that you could. You would only be laying the law down to the fishermen and letting them carry it out themselves. It is only in this particular locality, you see, where all this small plaice is caught at certain seasons of the year, and it is just in fine weather.

Dr. Clark.

809. Would you be in favour of legislation as to the period at which trawling could be done?—In that particular part?

810. Yes, where the small fish are, so as to prevent the great destruction of immature fish?—Within the limits.

811. So that you would want first a limit to be mapped out, and then you would want, by legislation, to compel them not to have a trawl down more than a couple of hours or such period as would give a chance of the bulk of the fish living?—I should not like them to go there at all. I should buoy it out and keep them out altogether.

812. Then do you think there would be no small fish outside those areas?—There would be a few come out, there is no doubt, but still the very small immature fish would not come out, I think, until they had got larger. Then they would live, and I think if the marks were buoyed out on a chart and the fishermen had instructions not to fish within those limits, it would give a chance to the small fish to increase and get out into the deep sea.

813. At the same time, if that were the case, with your present system of trawling, you cannot pick and choose, and there would be a large number of smaller fish, would there not? You might lessen the number of immature fish caught, but there would be still a considerable number?—There would be a few, there is not the slightest doubt, but they would not be so small; there would be none of these very small ones.

814. Are you in favour, as a remedy for this kind of thing, of limiting the period the trawl is down so as not to smother those fish?—That would be one way of assisting it, there is no doubt. What we term shorter hauls.

Sir Albert Rollit.

815. In those particular districts?—In those particular districts.

Dr. Clark.

816. I suppose you are finding as you go north and south, you come into contact with the line fishermen and drift net fishermen, and that there are great complaints of the destruction of their nets and lines by your steam trawlers?—We have no complaints. Our men keep off. As soon as they see the liners' lines are down they keep outside of them.

817. I suppose your men fish during the night as well as day?—Yes, at night particularly.

818. Can they see the buoys of the nets?—They ought to be lit up at certain places.

819. What ought to be lit up?—The buoys of the liners.

820. What do you say, supposing you are trawling down the Scotch coast. The constituency I represent have no trawlers, but there are a large number of drift net fishermen and line fishermen, and their complaint is that their lines are destroyed by your trawlers and their nets are driven away and destroyed, and that they sustain great loss in consequence of your coming from the south there?—I have no account of that; I know there are certain things done by trawlers of that description, but not by our men.

821. You think it is not done by the Hull trawlers?—I do not know of any case this year. There have been one or two cases in years gone by; but I do not know of any case which has occurred during the last three years.

822. Have not you had any complaints from Ireland?—No. Personally I have 27 trawlers, and I have had no complaints at all. One got a small portion of the lines in his propeller and he stopped and took them off and went back to the person and gave him his line and fish (30 cod). That was in the middle of the North Sea some three months ago.

823. Do you recommend the captains of your trawlers not to go near, say, the herring fishing boats where the drift men are working?—They keep off them.

824. Do you recommend them to do so?—Certainly, they must keep outside of them.

Colonel Cotton-Jodrell.

825. Are your officers certificated?—Yes, all the captains and the mates.

826. Of all the boats?—Of all the trawlers—they are all steam trawlers.

Dr. Clark.

827. Then I understand you are willing to extend the limit to 10 miles instead of three?—Yes.

828. And that would not interfere with any legitimate trawling such as your Company carries out?—It would not affect us at all.

829. Then you would be practically outside the limit—where the line men and the net men fish?—Yes, except during the herring season.

Chairman.

830. Have you personally any practical experience?—Not as a fisherman, only as a salesman, and buyer and importer, and so on.

831. I

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Mr. SIMPSON.

[Continued.]

Chairman—continued.

831. I understand when you speak of the 10-mile limit, you mean the 10-mile limit only to apply to the foreign coasts; not to the British coasts?—If the foreigner wishes it to be equal, then I say give way.

832. Are you prepared to see a 10-mile limit

Chairman—continued.

put on the British coasts as well as on the foreign coasts?—That is if the foreigners will give 10 miles too. I think three miles is sufficient here, but I would be willing to be kept 10 miles outside the British coast. I say give the 10 miles and take the 10 miles.

Mr. RICHARD ROACH, called in; and Examined.

Mr. Albert Rollit.

833. ARE you a smack-owner at Hull?—Yes.

834. Have you heard the evidence of the other witnesses?—Just so.

835. Do you generally agree with it?—I quite agree with Mr. Jeffs, of Grimsby, and also Mr. Alderman Toozes.

836. Is there anything you would to add to the evidence which they gave?—I should like to stop the sale of immature fish; and you may depend if the sale is once stopped no one would catch it. At the present time I have 12 vessels catching that immature fish; it is against my wish but there happened to be a steam trawler come into Hull and she realised 400 l. with this small fish; several other steamers, some of yours, Sir Albert, I think made very good voyages with this small fish as well, and it set our company almost crazed to take the fleet there. At present we have a large quantity of vessels there because they are doing well. I see by my sales in London we have been getting somewhere about 1 s. 6 d. and 2 s. a box clear from this fish, which I have had selling in the London market; but if that had been really good fish it would have made somewhere about 25 s. to 30 s. a box. I had one vessel in the Grimsby fleet which has been fishing in the middle of the North Sea, and I see that the price realised is as high as 27 s. and 30 s. per box; but when we send fish from the other fleet it has produced only 1 s. 6 d. and 2 s.

837. That is the difference between the North

Sir Albert Rollit—continued.

Sea and the bad fishing ground, is it?—Quite so, and if that fish was not allowed to be sold in London it could not be sent to London.

838. Then your remedy would be, would it, to close these places, or rather to prevent the landing and the sale?—Yes.

839. What do you say about closing certain areas?—I would not close them at all. I would stop the sale of it. No fishermen would then go there and haul away day and night the same as they do to catch a large quantity of fish which, when they bring it to market, is no use.

840. What do you say about having a close time for a particular species of fish?—I would not have a close time at all.

841. In other words, you think the fishermen would not go to the place which these undersized fish frequent?—No. You see at one time there was a close season which Nature gave the smacks, but they do not get it now. There was one time when we used to turn to at sea, and we used to be lashed together for eight or nine days and never catch a fish, and that was the time the fish were breeding, but since steam trawlers came on the road that was just the weather they wanted to make their 300 l. or 400 l. trips, and then the sailing smacks were no use. The sailing smacks for the last two or three years have hardly paid their way.

842. What are your vessels chiefly?—Wooden smacks. I am a shareholder in the Steam Trawling Company too.

Mr. CHRISTOPHER PICKERING, called in; and Examined.

Sir Albert Rollit.

843. You are a smack-owner at Hull I believe, and have been for many years?—Yes.

844. Have you heard the evidence which has been given by the previous witnesses?—Yes.

845. Do you agree with it generally?—Yes, generally.

846. Have you any exception to take to any of the statements made?—I think the stoppage of the sale would be all that would be required for the trade of the country. I think there were more small plaice landed the last five weeks than ever there was before in any other year. In London last week for seven days, from the 24th April to 1st May, there were 14,500 boxes of small plaice brought to Billingsgate market by the Great Northern fleet.

847. What was the average price of that?—The average price was about 4s. 3d. per box; 0.93.

Sir Albert Rollit—continued.

that would be 1s. 10d. to 2s. average price for the fishermen.

848. If those had been sizeable fish, what would the value have been per box?—They have made as high as 42s. a box, down to 28s. The freight for that fleet would be something like 1,500 l.; the freight of the other two fleets which were fishing in mid-sea would be something like 500 l. each, so that one fleet has realised something more than double the others, and the one would be making a fortune and the others losing money.

849. I think you can speak as to the quantity brought into Hull?—I should think for five weeks there has been something like 1,600 tons, and the average value, I should think, would be something like 8s. a cwt.

850. So that really very poor prices are realised

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Mr. PICKERING.

[Continued.]

Sir Albert Rollit—continued.

realised for what is seriously injuring the fisheries?—That is so. It would meet all the occasion if the size chosen was something like 12 inches, I think 12 inches would be quite little enough. That would be a plaice weighing about eight to ten ounces, but anything less than that is really of no use even to the poor people who buy them. The costermonger will sell those of course at a good price, but the small ones he would sell at 15 or 20 perhaps, for a penny—but if they think they cannot sell them they throw them away, or take whatever they can get for them.

851. So that practically the very small ones are not used for food at all?—Not at all; of course the poor people might try to do something with them, but it is no benefit to them, it is only like robbing them to sell them to them. There was a mention about dabs. Now a very small quantity of dabs are caught, and in Hull we make it a practice to give the fishermen the dabs. This would be about the ordinary size of a dab, something like ten to eleven inches, and anything less than that is not saleable; the men would not offer to bring them in, and they could not realise any money for them. I am a very large buyer and a largish smack owner, and we give the men all the dabs.

Chairman.

852. Is it not rather a curious thing that that sample which was produced first this morning should consist of more than half dabs?—That will happen occasionally.

853. It is rather curious that the one sample which was produced here this morning should be half dabs, is it not?—Yes. As a rule I should think really there is no more than 5 per cent. Sometimes a vessel comes up with 50 kits, and there is not more than half a kit of dabs.

854. I am speaking now of the proportion in a trunk of small plaice?—They sometimes may run a middling percentage, and at other times a small percentage. But this morning it did so happen.

855. It is curious, is it not?—Yes, it is curious. We never bring the likes of this sample to Hull. The men would know it was not saleable and would not bring it, but as to London the men who catch in the fleet merely have to make as many boxes as they can and they will shovel the stuff in, pick up a few big ones and put on top and think they will be able to get something for them. Sometimes they make the price come down so low that they are not really worth catching. If they were to throw these small ones overboard and only send those of fair average size there is no doubt those men would get more for the fish; it would realise more by the box. The costermongers have been taken in so often by having the likes of these with a few big ones on top that they will only purchase twenty per cent. of the weight of the box with the idea that the others are of no value; and that they will have to throw them away.

Colonel Cotton-Jodrell.

856. Can you form any idea where the sample

Colonel Cotton-Jodrell—continued.

we had this morning came from?—They all come from within 50 and 60 miles of the other side, what they call the Scheldt and those places. We do not get small fry except in the months of April, May, and June on the Dutch and Danish and German coasts.

857. What is the size of your boats?—I have nothing besides steam trawlers at present. I have built a great quantity of sailing vessels and sold them. Our steamers run from about 100 to 105 feet long.

858. What is the beam?—About 20 feet 6 inches, and about 11 feet hold.

859. That is very short is it not?—No the very largest is 105 feet; 105 feet is the longest vessel, that is what we call on the keel.

860. I mean what is the length of the trawl beam?—It differs in cases. Some men will have them 52 feet, but I should think 56 feet is the largest we have from Hull, and the sailing vessels run from 47 to 50 feet. Some may have one of 51 or 52 feet, but a steam trawl beam is much heavier than a smack trawl beam; they are perhaps one-third thicker and their heads are much heavier, because they have power to pull them along, and of course, by having more weight of gear they are liable to get more fish.

861. Do you use this mesh of which the size is two inches?—I do not think it makes any difference in the trawl, because you pull it along and you draw the mesh together. I do not think the size of the mesh would make any difference at all: but of course I am not a fisherman myself though I have been in the trade as a buyer and owner of vessels all my life.

862. I suppose there are some limitations laid down by your fishery board?—We have no fishery board. There is a fishery board in Scotland, and also in Ireland, but we have not a fishery board for England except the district fishery committees. I do not know that there has been any limitation laid down.

863. Has there not been any limitation laid down with regard to the size of the mesh and the length of the beam?—I do not know, I cannot say. I may say it does not matter to us steam trawlers if the rule was that we should not come within 20 miles of the English coast. I was speaking to one of our skippers and he said he got about 60 baskets in one haul of this size, all one size, and he was not able, when he got his gear on board, to get one basket of fish to bring to the Hull market which was saleable.

Chairman.

864. Did he turn it all overboard?—He threw it all overboard and shifted ground, he went from what we call the Bergen to the Scheldt and there he got a larger sized plaice, something like 11½ inches. These small ones would not be offered for sale in Hull at all.

Sir Albert Rollit.

865. The Bergen is the light ship near Heligoland, is it not?—Somewhere that way, yes.

866. Your vessels never drop a trawl within ten miles of the coast this side, do they?—I believe

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Mr. PICKERING.

[Continued.]

Sir *Albert Rollit*—continued.

believe if the men thought they could get fish within a mile of shore, they would be there if there was not some one to stop them.

867. But as a matter of practice, where do they begin to fish; not within 20 miles, do they?—It just depends. They will go perhaps seven miles, six miles, 15 miles, or anything. They are not particular where they are if they can possibly get a chance to get any fish. But I have known the time since I have been in the fish business that we have gone on the other side and got some of the finest plaice, large plaice, and the vessels have gone as far as they possibly could, shot their gear, towed out, and got plaice that has weighed from 2 lb. to 3 lb. or 4 lb. each; so that by making it a coast line it would not perhaps be any benefit. It is only the stopping of the sale that would do it. Stop the sale of the stuff, and then of course we shall get what we consider is best. It should be international. I have sent vessels to Rotterdam and other places with these small fish. I am one of the largest exporters to the Continent, and we find out if we send these small ones we should not have a sale; but if we could send this larger sort we should have a good price for it.

Mr. *Buchanan*.

868. Do your ships fish over the Holland grounds?—Yes; I have two in Hull to-day with about 13 or 14 tons each of this stuff. I was the first who sent a vessel to fish in the Bay of Biscay last year.

869. Then your vessels are large?—They are some of the finest afloat, and they have the latest improvements. I have sold vessels to Belgium, Holland, and Germany, and I believe I sold some of the first to Lisbon.

870. You said you landed your fish occasionally on the Continent?—Yes; I had two vessels in Rotterdam only a fortnight ago.

871. Can you tell us whether in Belgium, where they cannot land the undersized fish, the law is enforced?—I have not been into Ostend, but I have sent a quantity of stuff to Antwerp, and they have never objected to the sale.

872. You do not know whether the law is enforced there or not?—I do not.

Chairman.

873. Do you consider this small stuff quite unsaleable abroad now?—This is unsaleable everywhere where it is sent.

874. But that cannot be unsaleable or it would not be brought into the London market?—It is brought into the London market, but it is not saleable. They do not purchase this small stuff; they purchase the larger, which is with it, and they beg the other. They do not give value for this at all; a man will calculate that there is a stone of the bigger in a box, and he will buy that fish, and the other four or five stone is given him because it is no value whatever. If you had a box of this small stuff only in the market this morning no customer would pick it up.

875. It must be of value or it would not be 0.93.

Chairman—continued.

sent there?—The man who sends it probably expects to get something for it. It is in this way—he calculates it runs better than it really does.

Dr. Clark.

876. Do I understand you to mean that they put some of the better stuff on the top, and so try to deceive the buyer?—Yes.

877. And the buyer thinks a lot of the small stuff will be in proportion to the bigger stuff?—Yes.

878. That is obtaining money under false pretences, is it not?—Well, sometimes the same people will send a better article, and that man's fish will make more; but they generally take and shovel it up together.

Chairman.

879. But your whole case is that a vast quantity of this small stuff does come into the market?—Yes.

880. No one will tell me that a vast quantity of small stuff is sent to the market if no one buys it. You say stop the sale of it, and it will not come into the market?—Yes.

881. And I think that is a very fair argument, but you will not tell me that boxes of this stuff are now sent into the market and no one buys it?—They purchase what is on the top. There was a case only on Saturday, when a man bought five boxes of this class of fish and he took an empty box, picked off the tops of the five boxes, and left the other. He did not take it away—he got what he considered enough for his money. He gave 2s. or 2s. 6d. a box for it, and he got what he considered value for his 12s. 6d. He took it away and left the other lying there. If this fish was seized and people punished when they sent it in, that would stop the thing altogether.

882. It is very curious that people should be willing to pay railway carriage on this stuff, and then not be able to sell it; why do they not pick out the bigger fish in the first instance and then only pay carriage on the bigger stuff?—This happens more in London.

Major Jones.

883. Did this buyer that you refer to leave the small fish with the seller?—No, he left it to go away with the offal; with the condemned fish or dirt there was about.

Dr. Clark.

884. Do not they make fish soup with a lot of that stuff?—I do not know. Such stuff as this we would never offer for sale in Hull or Grimsby. There they would never buy it to send it away by railway; it is only the fish that comes in boxes by water from the fishermen that I am speaking of now.

885. How long have you been a fish buyer?—35 or 36 years.

886. It is only within the last dozen years that steam

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Mr. PICKERING.

[Continued.]

Dr. Clark—continued.

steam trawling has begun practically, is it not?—Yes.

887. Have you noticed a gradual decrease in size from the time that this has begun, or has it only just now flashed upon you within the last two or three years. Has there not been a gradual diminution in the size of fish year by year?—There has been no diminution in the size of fish in deep water, except on the other side of the sea.

888. Speaking as a fish buyer, and as to the class of fish you have bought, have you observed during the last ten or a dozen years there has been a gradual diminution in the size?—Yes, we have had a great deal less of the large ones.

889. Year by year?—Yes. Twenty years ago, of course, we should see very few of this small class of fish, because we had a great quantity of large fish, and the price then was not more than 25 per cent. of what it is to-day.

890. About one-fourth of what it is now: is that so?—Yes, about a fourth, and I should think there would be about 80 per cent. more large plaice landed 20 years ago than there is to-day.

891. Is this sterility gradual, or has it been caused by over-fishing, and by the steam trawling?—There is no doubt when we find a bank where there is plaice the information gets round amongst the men, and they go on to the ground and work it as long as it pays them.

892. Have you as a buyer observed that the deterioration has been gradual?—Yes, as to flat fish, and the cause, I think, is being allowed to catch this class of fish.

893. Have you come to the conclusion that if this goes on much longer you will have absolutely entire destruction of this class of fish?—Yes;

Dr. Clark—continued.

flat fish will be very scarce indeed. The price, as I say, is now something like 300 per cent. more than it was ten or twelve years ago. It was a very good price if we got as high as 16d. or 17d. or 18d. a stone for plaice, and we frequently now get 4s. 6d. and 5s.

Sir Albert Rollit.

894. Which difference is caused by the difference in size, is it not?—No, I am speaking of large plaice—I am speaking of fish of from 2 lbs. to 4 lbs. or 5 lbs. That has been these seven or eight years, since we have been working amongst these small plaice. Every year we have had a fleet of vessels working amongst it, and our large plaice has been gradually getting less and less every year, and the price has gone up very greatly. There is one thing I should like to mention. The Germans or the Danes at the present time send a large quantity of small plaice to London that they catch with their vessels on this coast. Their vessels are much smaller. That fish comes across by the Harwich boats, sometimes as much as 2,400 boxes. In a box there is a cwt., or from that to nine stone, and the Harwich people, the Great Eastern Company, land this stuff, that is to say, they bring it 250 miles across the sea, take it 70 miles by railway, and land it in London at 1s. a box. It is no matter where we have a fishing place if we had to send this class of fish 50 miles, we should have to pay not less than 1s. 6d. to 2s. a box, and this fish coming by Harwich competes in our markets. They will carry it for the foreigners 300 miles for 1s., and they charge us 1s. 6d. for 50 miles.

Mr. G. L. ALWARD, re-called; and further Examined.

Chairman.

895. HAVE you anything to add to the evidence you gave on the last occasion?—Only with regard to the proportion of dabs, which you laid stress upon. It is not at all the fact that a large portion of these small fish are dabs. I think it has been stated that 5 or 10 per cent. might be, but I think even that is excessive. I never saw in any part of the North Sea more than three or four boxes of dabs caught at one haul. In this particular place where we catch the small plaice, I do not think I ever saw more than a box of dabs caught, but I have seen the ship weighted over to windward to such an extent that her gunwale was in the water, by having a pack of those small fish in. It is erroneous to suppose any portion of it is dabs—it is small plaice. The dabs in the North Sea form a very small proportion compared with plaice. With regard to the dabs here I believe it would be found they have been specially selected from a special box and not taken indiscriminately out of a box of plaice. You heard what the witness said, that he asked someone to select them for him, and I believe they have been specially selected, the person

Chairman—continued.

supposing he wanted small fish and it did not matter what kind of fish.

Mr. Heneage.

896. Would that be your experience from what you know?—Yes, I know it for a fact.

Major Jones.

897. You have heard what has been said here in respect of the probable loss of 90 per cent. of small fish that would be thrown overboard. Do you agree in what has been said as to the probable death rate amongst these small fish?—Yes.

898. Ninety per cent.?—Ninety per cent. or more. It wants qualifying.

899. Have you any theory or suggestion to make in respect to limiting that fatality?—Only to keep the people off from where they are.

900. I am not referring to the special areas where these small fish are supposed to be chiefly, but in a general sense have you anything to suggest that would lessen the deaths amongst these

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Mr. ALWARD.

Major Jones—continued.

these small fish?—You see the question does not quite apply. You say in a particular area. Where there are large flat fish there are no small ones, that is the proper way to put it; or comparatively no small ones. The small fish are found in a prescribed area.

901. You are not answering my question. Have you anything to suggest with a view to lessening the fatality among the fish thrown back?—I have only one suggestion, and that is, to keep away from catching them, because having once caught them they are killed, and you cannot return them to life again.

902. Some of the witnesses have said that if the trawl was hauled up in two hours and not allowed to remain down for six hours, 75 per cent. of them would live?—That wants qualifying. I explained that point when I was called before. If a trawl is towed upon a soft muddy ground by a sailing trawler for an hour, you may take it that nearly every fish in the net would be dead. If our hauls were towed even by a sailing

Major Jones—continued.

trawler upon a very hard piece of ground where no mud went into the trawl, the chances are that all the fish that came up would be alive. If you took a steam trawler to tow on a piece of ground that is muddy, a large portion of the fish when they came up would be alive, because the net would be towed faster, and the mud would not clog the net. Then if you sent a steam trawler on to a piece of ground very hard and towed the trawl only for an hour, the chances are if she had any small plaice they would be alive and would be thrown into the sea, and I should say 50 per cent. would live. So that the whole of that wants qualifying before you come to an absolute conclusion or anything like a conclusion worth much. It is not right to suppose that you should say to a man, "tow your trawl two hours, and of what you get a portion will be alive." It is not right to suppose that. If it was towed in a certain part of the sea, perhaps they would be all dead.

Tuesday, 9th May 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Colonel Cotton Jodrell.
Mr. Harry Foster.
Mr. Kearley.
Mr. Mallock.

Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. WALTER JAMES WALLIS, called in ; and Examined.

Chairman.

903. YOU are a dealer in fried fish, are you not?—Yes.

904. How long have you been in that trade?—Ten years.

905. May I ask what is your experience with regard to the price of the fish that you buy ; has it gone up or has it gone down?—It has gone up very much the last few years.

906. When you first went into business what was the price you used to pay for a box of fish such as you use?—It was according to the time of the year. About Easter time small fish, useable-sized fish, used to cost 5s. a trunk. During the winter season we have to pay now on an average about 1l. a trunk for fish no larger, sometimes not so large.

907. Between 1883 and 1893 do you say the price of your fish has gone up four times as much, is it four times as high?—Not four times.

908. Twice as high?—Yes.

909. About twice as much in the winter months, is that so?—Yes, and in the summer as well.

910. As to the size of the fish, what difference do you find?—As I said, about Easter-time we used to have a very useable-sized fish.

911. What do you call a useable-sized fish?—About a 12-inch fish is a useable-sized fish for frying, though not for wet fishmongers. They require a large fish, but from 10 to 12 inches is a very useable-size for friers.

912. Is the size you prefer?—Yes, about a 12-inch fish.

913. How small a fish can you use profitably?—About a 10-inch fish. Anything less than a 10-inch is of no use whatever. I measured one yesterday, 11½ inches, and it weighed 10 ounces. I measured it on purpose, and then weighed it afterwards.

914. The general size of fish you like to get is about 12 inches, I understand?—Yes.

915. And do you find it more difficult to get these than you did 10 years ago?—Yes, anything under the 11½ inches is a useless size.

Chairman—continued.

916. But you buy these smaller fish in the market, do you not?—Yes, because we cannot get anything else.

917. What do you do with them?—We pick out the useable size and throw the others away. Several days this week I have had to throw 100 fish away from a trunk. I counted one one day and there were 250 fish in it, and I had to throw 100 away.

918. What did you pay for that trunk?—6s. 6d.

919. And you kept 150?—Yes; and they were only a small size. The majority we had to sell for a halfpenny.

920. Was that a profitable transaction on the whole?—I did not lose any money on the box of fish, but it seemed to me to be a pity to catch them that size, because they do not give satisfaction to the customers.

921. Of course you simply come here to speak to what you find in your trade. You cannot, I suppose, make any suggestion with regard to any remedies to be adopted?—I think if there are any means of preventing catching these small fish it would be beneficial to us in the long run; we should then get a plentiful supply in the winter. About 100 fish in a trunk would be a fair size for fish-friers, and about 40 to 50 fish in a trunk for wet fishmongers.

922. Your fish that you buy, I suppose, are principally, if not entirely, plaice, are they not?—Yes, we always buy plaice if we can.

923. If you cannot buy plaice, what do you buy?—Sometimes plaice is so dear that we buy haddocks or skate.

924. Those do not come under this particular proposal for restriction, do they?—No.

Sir Albert Rollit.

925. Where do you carry on business?—Parker's-row, Bermondsey.

926. Of course there is a very great demand for this class of fish there, is there not?—Yes; it

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Mr. WALLIS.

[Continued.]

Sir Albert Rollit—continued.

it is a very poor neighbourhood and it seems a very great fish-eating neighbourhood.

927. When you buy a trunk of fish do you find, in addition to plaice, any great quantity of dabs, or anything of that sort, in a trunk?—No. It is very seldom we find any dabs in the plaice we get from the steamers that come from the North Sea.

928. Then do you buy from the trawler as she comes up to the quay?—We buy it by auction.

929. On the quay?—Yes; what comes out of the steamers. But as to the boxes that come by railway from Lowestoft or Yarmouth and those places, we perhaps get half a box of plaice and half a box of dabs; they put anything in them sometimes.

930. Then you do not count the smaller fish of any value, but you buy the box for the sake of the big fish in it; is that so?—Yes.

931. Which amount to about 100 in an average box?—Yes. I kept 150 fish, but they did not give any satisfaction to the customers because they were so small.

932. About what quantity of sizable fish were there in the box you have been speaking of out of the 250?—I should think about 70.

933. Did you count in the value of that box, the smaller fish?—No.

934. You bought it for the bigger, and threw the rest away?—Yes; the people all ask for middle bits of fish, and these small fish, which we are only able to make a halfpenny each of, do not give satisfaction. If we were to continue, day after day, serving the people with pieces of fish like we have had to do lately, we should find we should lose nearly all our customers, and our trade would very much decrease.

935. Do you supply a fish or a piece out of a fish, or how do you do it?—Principally my customers are halfpenny customers.

936. What do they get?—Sometimes, of course, I have plaice that will cut into 12 pieces, and I make 12 halfpenny pieces out of it, but most of the fish that has been coming lately I can only cut into one halfpenny piece.

937. And you supply a fish for a half penny?—Yes.

938. And that does not give satisfaction, does it?—No; the customers call them all skin and bone.

Commander Bethell.

939. Have you any idea what becomes of the fish that are thrown away?—They are used for manure. We have a man call every day who takes all the offal away, and it goes for manure.

940. You get a price for them, do you not?—No; a man comes every day and takes it away for nothing.

941. He has it for the trouble of taking it away?—Yes, and he sells it for manure, such as all the heads and the fish we cannot use.

Mr. Buchanan.

942. Are the small fish put into that?—Yes.

943. Have you been long in the business?—Ten years.

0.93.

Mr. Buchanan—continued.

944. Has there been an increase of recent years in the proportion of very small fish?—Yes, and every year I find the fish become dearer. It gets worse every year.

945. I did not quite understand about this box you bought yesterday. Do you say that that was an average box in your recent experience. You said there were 100 out of 250 fish undersized; was that above or below the average in your recent experience?—There were more small fish than usual in that trunk, in fact, I should not have bought it, but it was the best size I could see in the market. There were several trunks I looked at which I should think had 500 fish in them. I bought these fish off R. and W. Larkins; I looked at about 10 trunks, and the other nine had about 500 fish in them, and this was the only one I could see that I could make any use of.

946. There is a pretty constant market, I suppose, in your trade; it is a pretty constant business, is it not?—Yes.

947. Is it a large business; are there many in London; or is there a large consumption of this fish?—Yes, there are a great many in the business. Just round me you could almost throw a stone from one to the other.

948. And is it the same in other parts of London?—Yes; all over London there are fried fish shops within a short distance of each other.

Mr. Kearley.

949. When you go to market, do you consider this great waste of what you buy, in your cost. Do you, in giving 6s. 6d. for a trunk of fish, take into consideration that it is going to cost you more, owing to the fact that you have to throw out so much. You pay 6s. 6d. for some fish, a large quantity of which is not saleable; consequently for your 6s. 6d. the saleable quantity is much less than the quantity you buy?—Yes.

950. Do you consider that?—Yes, of course; I would much sooner give 12s. for a trunk of fish that was all of a useable size; in fact, a trunk of fish that was of useable size, at about 12s., would realise more than one of these boxes I have been speaking of, for 6s. 6d.

951. You mentioned that out of the 150 fish that were useable 70 were sizeable?—Yes, about 70 were sizeable.

952. What do you mean by sizeable; can you mention the size?—When I say 70, I suppose there were 70 fish that would cut up into about a penny or three halfpence each.

953. What was the length of them?—I should think there were 70 10-inch or 12-inch fish.

954. Do you mean the remainder were under that?—Yes; I suppose some of them were only three or four inches long.

955. Out of the 150 you kept I understood you to say 70 were sizeable fish, did you not?—Seventy were of useable size, though I used several which I should not call of useable size; that is fish making only a halfpenny each.

956. Would the remainder of the 150 be under 10 inches?—Yes; some that I fried I do not suppose were more than five inches long from the nose to the tail.

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957. Then

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Mr. WALLIS.

[Continued.]

Mr. Kearley—continued.

957. Then you are able to use those small fish; you are compelled to use them as a matter of fact, are you?—Yes; we are compelled to use them, but they do not give satisfaction.

958. It is not a saleable article, I understand?—No.

959. How much fish do you consume weekly on an average in your business?—I use about

Mr. Kearley—continued.

12 trunks of fish a week. There are some shops who use as many as that almost in a day. There are some large fish friers that use about 12 trunks a day.

960. The total consumption amongst fried fish shops is very large, is it not?—Yes, very large; more so, I should think, than among the wet fishmongers.

Mr. W. T. LOVELL, called in; and Examined.

Chairman.

961. You are a fried fish merchant, and carry on trade in Lambeth, do you not?—Yes, in Cornwall-road, Lambeth.

962. How long have you been in business?—I may say all my lifetime, but for myself 12 years.

963. And before then?—I was born in the business, almost.

964. Does your experience agree with that of Mr. Wallis?—Yes, with the exception of the sizes used; of course that varies with a man's trade. For my business I require a little larger fish. In fact, I should never care to have more than 50 fish in a trunk.

965. What would be the size of those fish?—Fifty fish would not run more than about 18 inches, I think. I am not positive, but I should think they would average that.

966. Into how many pieces do you cut up those fish?—According to the size required. Some customers like halfpenny pieces, some penny pieces, some twopenny pieces, and so forth.

967. Do you find a greater difficulty now than 10 years ago in getting fish of the size you require for your trade?—Certainly.

968. Have you to pay a higher price?—Yes, a much higher price. Plaice generally average all through the winter from 20s. to 30s. a trunk.

969. Has that difficulty been a steadily increasing difficulty, or is it one that has fluctuations?—No; it increases every year; plaice becomes dearer every year; in fact, a number of shops do not have a plaice for weeks together.

970. Do you use any other fish besides plaice?—We are bound to; but plaice is the most popular. A number of people will not buy if you have not plaice. There are a certain class of fish they will not look at at all.

971. What class are those?—Haddocks, skate, and other kinds of fish, some people are very much prejudiced against.

972. Have you been obliged to raise the price of your fish to your customers?—As we serve a very poor class of people we do not raise the price.

973. Have you reduced the size of the portions?—We have to cut it as near as we can without cutting our fingers, very often. We have to sharpen our knives, I assure you, and then we often sell at a great loss; in fact, there is only one thing which has kept us going for the last few years, and that is the plentiful supply of potatoes we use. If we had one bad potato season we should all be bankrupt; the

Chairman—continued.

potatoes are our backbone, and directly we lose the potatoes our business will be gone.

974. I am afraid we must not go into the question of potatoes here?—But it concerns the business directly.

975. But it does not concern the Committee. Have you any suggestion to make with regard to remedies which might possibly restore a more bountiful supply of fish?—Prohibit the sale. It seems to us in the market that the bulk of this small fish comes to England. Then look at the quantity of Dutch fish we have here, and it only comes here during this season; we rarely get Dutch fish at other parts of the year.

976. Do you find a difference in different seasons of the year with regard to the size of fish?—Yes, we know when to expect them. This is the season now. Since last Monday one company alone brought 16,000 packages of this small fish. It would take a long time to get that quantity of large fish.

977. Do these trunks of small fish find a ready sale?—Well, we have nothing else to buy; we are bound to buy them to keep our business going, and we have to throw a large portion away.

978. Taking the average trunks that you buy, what proportion of fish have you to throw away?—At the present time I should have to throw 600 out of 700, and the other hundred are really worth nothing. People coming to my place want a large piece of fish. I cannot serve them, and they go out in droves, and I stand in the shop, and look like a fool.

979. Your experience is, and your evidence amounts to this: that you do find a very large quantity of immature and comparatively useless fish thrown on the market at the present time?—Yes.

980. And that that class of fish has very much increased during the last 10 years?—Yes, it has.

981. And steadily increased?—Yes.

Mr. Kearley.

982. Does the public demand for size vary according to the locality?—I should think it is a general feeling; people would sooner have a piece out of a thick fish than have all bones. For instance, you couldn't give a child all bones.

983. I want to know whether the demand for large fish varies according to the locality in which the shop is situated?—I should think not. Yes, to a certain extent.

984. The

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Mr. LOVELL.

[Continued.]

Mr. Kearley—continued.

984. The last witness mentioned that he considered a useful size 10 to 12 inches. I understood you to say you wanted fish about 18 inches?—Yes, if I might correct that gentleman, he would not want them less than that; he could use them that size, but he would prefer them larger if he could get them.

985. Is there an absolute demand in particular localities for fish of a minimum size of say 18 inches?—Yes, it is preferred.

986. But it is not absolutely essential, is it; the public will take smaller fish if they cannot get the larger, will they not?—Some will, not all; we find it a great detriment to our trade. More walk out from my shop than I serve; they will not have it.

987. You have mentioned that prices are much higher, and you admit also that there are less useable fish in a trunk for your money?—Quite so.

988. Consequently the fish is very much higher than is actually represented by the purchase price of a trunk of fish?—Yes.

989. And the retail prices remain unchanged, do they not?—Yes.

Sir Albert Rollit.

990. When you speak of the Dutch fish, does it come by boat, or how?—It comes by rail.

991. How; through to Harwich?—From Harwich, I believe.

Sir Albert Rollit—continued.

992. Do the Dutch vessels come up to Billingsgate?—No.

993. When you speak of the trunk is it all plaice that comes, or are there other sorts of fish in it?—They are sold as plaice.

994. Whatever it is sold as, what do you find; do you find it all plaice, or any proportion of dabs?—If we buy fish coming from Lowestoft, we find many dabs and ice; sometimes more ice than fish.

995. I believe you can speak of an arrival last Monday of the A 1 Company, which brought 5,400 trunks of these small fish, can you not?—Yes.

996. On the Tuesday you had none of the A 1, but a Red Cross steamer brought you say what quantity?—I should think the two steamers, the Grimsby Fishing Company and the Red Cross, brought less than 100 packages of plaice between them. They are not fishing on the small grounds yet.

997. Is it chiefly the Dutch Company that send this fish?—No, the A 1 Company are our own fishermen.

998. Is it a fact that you are overridden with this small stuff, and the refuse contractors the same?—Yes.

999. And they do not pay you to have it taken away, do they?—We have to pay them for having it taken away.

Mr. GEORGE TAMPEN, called in; and Examined.

Chairman.

1000. You are also in the fried fish trade, I believe?—Yes.

1001. You have heard the evidence of the former witnesses, have you not?—Yes.

1002. Does your experience agree with those witnesses?—Yes.

1003. Do you agree with all they have said?—Yes.

1004. Is your experience the same as theirs?—Yes, very similar. I can only mention this, that twelve years ago this month we were getting large fish at a cheap rate, about 9s. a trunk, and from that time it seems that large fish has become more scarce, and the consequence is, it has gone up in price.

1005. Can you tell me when this change began to show itself?—About seven or eight years ago. About 12 years ago we had all through this month, where there was a reasonable supply, large fish at a reasonable price.

1006. What do you attribute this change to?—To catching the immature fish. I do not see there can be any other cause.

1007. Do you believe that if the sale of these small fish was prohibited you would then soon see a change in the class of fish that would be brought into the market?—I should think so.

1008. Have you any reason for holding that opinion?—Only this reason, that if they were allowed to mature, there would be a more abundant supply. If the immature fish were allowed to grow to 2-lb. fish, one trunk would be sufficient where we have to buy four or five now.

0.93.

Chairman—continued.

1009. Do you use the larger class or the smaller class?—If I can get it at a reasonable price so as to give me a profit, I prefer the larger.

1010. What is the smallest sized plaice you would use?—Do you mean in measurement, or weight?

1011. Whichever way you like to put it; take the measurement?—If I bought smaller fish than about 12 inches I should have to throw a great amount of it away.

1012. But what is the standard below which you would throw away; 8 inches would it be?—Well, according to the price we pay, we are tempted to sell smaller fish. I have had to put two together to make a halfpenny worth, but when it has cost a lot of money, then I have had to throw away a lot.

1013. What would be the length of these two that you put together to make a halfpenny worth?—I daresay about five or six inches.

1014. So that you do find means of disposing of even small fish, do you?—When they cost a lot of money we are tempted to do it to get our money back, but it does not give satisfaction.

Sir Albert Rollit.

1015. You were one of the deputation, I believe, were you not, that waited on the London Fish Trade Association to point this out some time ago?—Yes.

1016. Have you sometimes to buy four trunks to get sufficient large fish for one trunk?—Yes, I think

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Mr. TANPEN.

[Continued.]

Sir Albert Rollit—continued.

I think I have, but I have bought them very cheap.

1017. The remaining three being wasted?—Yes.

1018. Even then, I think, you say you have to put two fish together to make a halfpenny worth?—Yes.

1019. About two years ago do you remember seeing a quantity of small plaice in the market for which there were no buyers?—Yes.

1020. What quantity was that?—I could not say exactly, but I should think there were some tons of them.

1021. Five tons?—I should not think so much as that; two or three tons.

Mr. Buchanan.

1022. Is there often fish left in the market for which there is no buyer because of its size?—I cannot say that I ever saw this but once. They were absolutely thrown out of the trunks as waste; no doubt the salesmen had been selecting the largest out of them to make up a few trunks, and the others were thrown away.

1023. That was only once in all your experience?—I have seen similar trunks, but not so many at one time.

1024. Where is your business?—At Rotherhithe.

Mr. Kearley.

1025. When you bought, or had to buy, four trunks to get one useable trunk, you say you bought them cheaply?—Yes.

1026. I suppose that has been caused by the fact that the fish was undesirable on account of its smallness?—Yes, there was such a glut of small fish in the market that it fetched very little; sometimes as low as 1s. a trunk.

1027. Is it thoroughly well understood when there is a large supply of immature fish on offer; does it get well known amongst you that the fish on offer is very small?—Yes, we soon find that out.

1028. Have you the privilege before buying fish to sample a trunk?—You can put your hand down into it and you can feel the size within a little.

1029. Is that permissible?—Yes.

1030. Consequently, in buying four trunks to make one saleable one, the price is a low price?—Yes, a very low price.

1031. But outside that, when you are buying what I may term ordinary marketable fish, and the turn out is not a satisfactory one to you, and you have to throw out a good many fish (I am not speaking of when the market is glutted with unmarketable fish), but when you buy ordinary goods the percentage of throw-outs is very large then, is it not?—No, it is not with the summer fish.

1032. The waste is not large?—No.

1033. Out of a trunk of ordinary merchantable fish, what in your experience is the percentage of throw-outs?—Do you mean when it runs a reasonable size?

1034. Yes?—There is none then.

1035. There are none at all?—No.

1036. The first witness mentioned that out of a trunk of 250 fish he had to throw out 100?—He must have been alluding to when he bought them at a cheap rate in a glutted market.

Mr. Kearley—continued.

1037. In the ordinary way may we take it that an ordinary trunk of fish is entirely saleable in your experience?—Yes, according to the neighbourhood. Some neighbourhoods will accept these smaller fish, but others will not. It is according to the class of people you have to serve. I live in a neighbourhood where there is a lot of Irish, and they would not eat meat on Friday on any account. They would have fish, however small, in preference to anything else.

1038. When you buy a trunk of fish which is satisfactory, from which you have to throw out no fish at all, what would be the average size of the fish in that trunk?—Twelve to 14 inches, I should think. I could use all those fish, and they would give satisfaction.

1039. Then it is competent for you to buy continually trunks of fish containing fish not less than 10 to 12 inches?—No, not at this time of the year.

1040. Then do I understand it is only at this time of year that immature fish comes along?—From the steamers it is only at this time of the year. It lasts about two months, I should think, sometimes longer. I notice there has been a good deal less caught this year and last year, to what there was in previous years, say 8 or 10 years ago.

1041. At this time of year, you say the immature fish comes in a trunk of fish—how much would you have to reject at this time of the year?—It would be according to how fortunate I was in buying. Perhaps out of 50 trunks that come from a boat, there would be several decent sized fish, that I could cut into three halfpence or twopence. I might be fortunate enough to get one of them, because it is always the practice of the packers to lay the largest fish on the top. Whether they do it to tempt the buyers, or to keep the others from falling out or not, I do not know. No doubt it is to tempt the buyers and partly to deceive them, I may say. So that out of those we might get a few that were serviceable fish, and the others might not be quite useless. You can hardly examine them.

Mr. Renshaw.

1042. How many trunks of fish do you sell in a week?—It is according to the size of the fish. If I was able to buy trunks of useable size fish, or nice size, 2 lb. fish say, I daresay I should sell about 12 to 14 trunks. Sometimes trade fluctuates at different times of the year.

1043. Taking it all through the year, you would sell from 12 to 14 trunks a week, you think?—No, not through the winter, because I live near the Surrey Commercial Docks, and when there is no work there, there is no trade doing. At this time of the year I ought to be doing that.

Mr. Buchanan.

1044. Supposing it were made illegal to buy or sell plaice under 10 inches, as is proposed, would that very largely affect your trade?—No doubt it would make a difference for a time, but I have no doubt it would improve it later on.

1045. But a large amount of the plaice that you

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Mr. TAMPEN.

[Continued.]

Mr. Buchanan—continued.

you now sell are under 10 inches in length, are they not?—Yes.

1046. Then if it was made illegal to sell these fish, it would make a very serious inroad into your trade, would it not?—In which direction do you mean?

1047. It would be illegal for you to sell these fish, and if you did sell them, you would be fined for it, would you not?—Do you mean it would improve my business or harm it?

1048. I want to know from you what you consider the result would be?—If you made it illegal to sell the immature fish, I have confidence that it would give us a better supply of mature fish.

1049. But in the meantime, how would you get your fish for your customers?—We should have to fall back upon something else; some other kind of fish.

1050. Would you buy more expensive fish, or what?—We should have to buy different sorts of fish.

1051. Would your customers buy it?—Yes, they would so long as it was good.

1052. But it would make a difference to you, would it not?—No doubt it would make a difference at the first onset.

Mr. Kearley.

1053. The previous witness said that plaice was described as “plaice;” is each packet marked “plaice?”—No.

Mr. Kearley—continued.

1054. When mixed fish is sold, is it described as “mixed?”—No; you are not told when it is sold, but you can judge, generally; someone finds out it is a mixed trunk, or you might be unfortunate enough to buy what you think is a trunk of plaice and it is mixed.

1055. Is any guarantee given, verbally or otherwise, as to the contents of a trunk of fish?—No, it is understood there are no kinds of fish guaranteed.

1056. It is clearly defined is it, that the contents of the trunks are not guaranteed?—Yes, you buy it at your own risk.

Chairman.

1057. Do you find many of your trunks contain mixed fish?—Sometimes we buy them mixed, and the price runs according to the contents of the trunk.

1058. What are the principal sorts of fish you find in with the plaice?—All kinds. Sometimes there is a hake in, and sometimes there is a cod. If you buy the land carriage fish, you find a lot of small dabs.

1059. Have you any use for those?—Yes, the largest of them.

1060. You fry them and sell them as plaice, do you?—Yes.

Mr. WILLIAM CROSSLEY NORMINGTON, called in; and Examined.

Chairman.

1061. You are one of the admirals of the Grimsby trawling fleet, are you not?—Yes.

1062. How long have you been accustomed to go to sea on board a trawler?—Twenty-seven years.

1063. How long have you been admiral of the fleet?—Seven seasons; seven successive years.

1064. Before that, for how long were you master of a trawler?—I have been master 21 years altogether.

1065. You, I believe, have a share in your catches?—Yes.

1066. What is your share?—Seventeen per cent.

1067. Seventeen per cent. goes to the master, does it?—Yes; 17 per cent. of the nett amount, not the gross amount; the nett amount after the expenses are deducted.

1068. Do you, as admiral, get a larger share than other masters?—No, I am paid by results. Each vessel pays 3d. per cutter for each consignment of fish to market.

1069. So that it is very much to your interest, is it, that you should bring home a good bulky catch of fish, containing a good quality of fish?—Yes.

1070. What has been your experience as to the quality of the fish that you have brought in during the last 20 years?—There has been a marked falling off in the quality during the last 10 years.

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Chairman—continued.

1071. Up to the last 10 years do you think there was any falling off?—Some, but not so much as of late.

1072. That falling off has been progressive, has it? I mean has each successive season since 1883 been worse than the former one?—Yes.

1073. Has that been in the bulk of the fish, or has it been in the quality of the fish?—Both in the bulk and the quality.

1074. The number of tons of fish that you have brought in yourself has been smaller, you think?—I understand that there has been as much fish landed.

1075. I want you to give your own experience?—My own experience is so.

1076. Have you brought in fewer tons of fish yourself?—Yes.

1077. Have those tons of fish been fish of a smaller size than you were accustomed to catch in your younger days?—Yes.

1078. Has it been your experience that some of the fishing grounds in the North Sea, which you used to find profitable, have become unprofitable?—A great many.

1079. Could you tell us some examples of that?—The Dogger Bank, for instance, up to late years, was the most noted fishing ground, now it is almost obsolete, and nearly exhausted of fish. It was the most famous fishing ground of the North Sea.

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1080. But

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Mr. NORMINGTON.

[Continued.]

Chairman—continued.

1080. But the Dogger Bank is a very big place, is it not?—Yes.

1081. Do not you go to the Dogger Bank now?—Yes; but we have to be satisfied with smaller lots of fish.

1082. Then it is not quite exhausted, for you go to it still?—No.

1083. What are the classes of fish in which you have noticed the most marked deterioration?—Plaice.

1084. Can you tell me, in a catch of plaice, what proportion of small fish you find now, at all?—It depends on the locality. In some places you get nothing but small, in others you never get any small. No small plaice are caught in the body of the sea, but all round the coast.

1085. You would not catch any very small plaice on the Dogger Bank, would you?—No.

1086. The small plaice you would catch principally would be off the Dutch and Danish coasts, I suppose?—The German and Danish coasts.

1087. Do you, then, knowingly go to these places and catch the small plaice?—Yes, in years gone by, but not recently.

1088. Where are your most recent fishing grounds?—The Dogger.

1089. Do you find also a great falling off in soles?—Yes; that is the reason we left off going after the small plaice. It was the soles that caused us to go amongst the small plaice.

1090. You used to catch large quantities of soles off the foreign coasts, did you?—In the year 1866 I saw 16 baskets of soles caught in one night, where you could not catch 16 soles now off the German coast.

1091. But still, there are a considerable number of soles coming to market, are there not?—Very few in comparison.

1092. Where do they come from?—Further south than we fish, from Lowestoft. The Lowestoft vessels send a deal of soles to Grimsby by rail, and some come from the Bristol Channel, but the Grimsby smacks do not catch many soles at the present time.

1093. What do they catch principally then?—Plaice, haddock, and cod. There are some that fish for soles, though the quantity is small, but the prices rule much higher. At the time I spoke of, we got 18s. a box for those soles, and now I should say the average price is about 8l. or 9l.

1094. Have you any opinion yourself as to how this state of things can be remedied?—By stopping the sale of the small fish.

1095. Do you think that if the sale of the small fish was stopped that would cause trawlers not to catch them?—Yes, immediately; there would not be one more go; it would be no good anyone catching the fish if he could not sell it.

1096. Would not he still go to these grounds on the chance of getting some big fish amongst them?—There is nothing else to catch but the small plaice. The vessels that send these large consignments of small plaice have little or nothing else to catch; they depend on the large quantity

Chairman—continued.

of plaice, and the chance of a market to make the trip pay.

1097. What is your experience with regard to the proportion of small fish that come up alive out of the trawl?—It depends on the length of the haul.

1098. Your ordinary haul is about six hours, is it not?—Well, then it depends on the kind of fish. Plaice do not come up alive as haddocks do.

1099. I am speaking of the flat fish principally?—About 20 per cent. would be alive I think; sometimes a little more, sometimes less. I have been trawling for four hours when the wind has been light and there has been sand in the trawl, times when they have all been dead.

1100. Would you find any difficulty in separating these small fish from the body of the catch on the deck of your vessels?—Yes, if we had a few big ones amongst them, it would take a considerable time, but that would not count for anything if we could only get them, but they are not there.

1101. Still, would you throw back into the sea the small fish that you caught?—Yes. Well, I do not go to catch them, if I did I should. I would not bring in the trash which I see landed at Grimsby. I saw 28 boxes of plaice sold at Grimsby for 21s.; and I have no hesitation in saying there were 700 fish in each box. If those fish had been allowed to grow to maturity, 50 of them would have piled up a box higher than any of them were which contained the 700.

1102. In your opinion would it be any advantage when once these fish were caught to throw them back into the sea?—No; they are a dead loss.

1103. Then the only way that any prohibition of the capture and sale of small fish could be of advantage would be by preventing men going and fishing on the grounds where they are found?—I do not think you have enough ships in the Navy to stop the men from catching them. No vessel can go two ways at once, and the ground extends so far that two men could puzzle the smartest man that ever went on a Revenue cutter; he cannot go two ways at once.

1104. Then you think it would be useless to attempt the prohibition of the capture of them?—Yes.

1105. Supposing the sale of them was prohibited, you do not think that the fact of these small fish when they were caught being thrown back into the sea would give them a chance of living and growing?—No; very few of them would live and grow.

1106. Have you any other suggestion to make to the Committee at all?—No; not more than the prohibition of the sale. That is my chief argument. It is the only remedy that I can see that would be available. As to the stopping of the catch, my experience has been a unique one with regard to fishing on that coast. We have vessels in our fleet from nearly all the ports in England, and though every man in the fleet knew we were restricted to a three-mile limit, if the soles were within that limit, it was the common practice for 20 or 30 vessels to watch the gunboat go out of sight, then go in there and risk capture, and I have had to remove the fleet sometimes

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[Continued.]

Chairman—continued.

sometimes from a good fishing-ground and seek fish elsewhere, in order to keep these men out of trouble.

1107. Do you not think it would be possible for any system of marine police to prevent these acts?—Not without you adopted one policeman to every ship. That is my opinion. If I had a chum I would not care for the smartest revenue cuttersman you can produce; he cannot catch us both; he can only go after one, and while he is after that one the other can prosecute his business. It is part of our calling to dodge those fellows. When we go to sea we go to catch all we can; we have not been careful as to the few. We have deplored the fact of catching these fish, but others have gone, and we have had to go to the place where we could make most money.

1108. In fact, your view is that the Government should now protect you against yourselves?—Well, no.

1109. You have fished so successfully that you require to have impediments put in the way of this very successful fishing, do you not?—I would be satisfied with any restriction being put on that would improve the trade, personally.

1110. Quite so; but is it not the fact that you are asking for restrictions to be put on your own energies?—Yes; because I have a conviction that if the small plaice catching were stopped, it would replenish the stock. I am not a naturalist, but I seem to think that a small plaice will grow into a big one, provided he is left in the sea. I can remember the time when there were no small plaice there.

1111. Then how can you account for the small plaice having shifted there?—The few that were there were not noticed among the big, and they were close into the shore. The excessive catch of large fish was such that we never had need to disturb them, and as the large fish was captured and the ground deserted by them, so the small ones have seemed to spread, till in the summer season they cover an area of, I may say, 140 miles in length by 15 miles in width, where a man can go and put down his net and catch either a small or great quantity of small plaice anywhere in that limit from the Horn Reef to the Skelling Light right along the German coast.

1112. Is there any appearance of diminution in these fish?—No; they seem to be thicker every season.

1113. Then the fishing does not seem to have had much effect in diminishing their number?—Well, there are not so many vessels that go among them; if there were no more went among the big ones, we should soon have plenty of fish, only it is the notice that is taken of those that are brought, it is the quantity that you can get into a box. There was a vessel on Monday which landed 420 boxes of small plaice; but if they had landed 420 boxes of haddocks no one would have taken any notice of them.

Mr. Kearley.

1114. You say, do you, that in the last ten years there has been a marked decline in the amount of fish caught?—Yes.

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Mr. Kearley—continued.

1115. Do you say fewer tons of fish than in your earlier days?—Yes.

1116. You mean, I presume, fewer tons of fish according to the fishing capacity; or do you mean to say that the aggregate amount of fish caught now is less than it was 20 years ago?—Fifty per cent. less, and the catching power is 30 per cent. better.

1117. Then in spite of the very large increase in the catching capacity, the total catch of fish is less now than it was say 10 to 20 years ago, is it?—In comparison to the number of vessels it is much smaller; we had very few vessels. For instance, when I was apprentice in Grimsby in 1866 there were about 250 smacks registered in Grimsby, and half of those would be trawlers; the average size of the smacks would be 45 to 50 tons. I should say in the year 1888 there would be nearly 900 registered there, all superior vessels. All the old vessels are passed away, and there are larger vessels and larger nets in use.

1118. I do not quite understand now whether the total catch of fish to-day is greater or less than it was, we will say, 10 to 20 years ago?—According to statistics there is more landed in the country, but they have to go further afield for it, and then they have increased the catching power and brought steam trawling into the business, and of course a steam trawler has an advantage over a smack.

1119. Then may I take it that the fishing capacity per ton is less, but the aggregate catch is more?—I do not follow you.

1120. The fishing tonnage has increased very largely, has it not?—Yes.

1121. And the aggregate catch is larger?—But not so large in proportion.

1122. That is the question, and I understand your reply. You suggest that stopping the sale of immature fish might prove a remedy?—My opinion is it would prove one immediately; it would stop the catch as far as night vessels were concerned, and I have no hesitation in saying there is not a man in Grimsby but would rejoice to think that it was so. The feeling is quite unanimous in Grimsby that this thing should be put a stop to.

1123. Do you think they would not fish these grounds that they go to now, where they are sure to catch only small fish if this legislation was brought about?—No.

1124. I understood you to say that the trawlers go to these grounds knowing perfectly well that they will only catch small fish there?—Yes, that is so.

1125. And consequently those grounds would get a rest, as it were, supposing it were not permissible to land immature fish. If it became law that they were prevented from landing immature fish, it follows as a natural sequence that the trawlers would not go there, and consequently the fishing grounds would get the rest that they require, does it not?—Yes.

1126. Do you agree with that?—Yes.

1127. In hauling in the trawl, or when the trawl is hauled in, you say that a large percentage of the fish in it is dead?—Yes.

1128. What would be the effect on the fishing ground

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Mr. NORMINGTON.

[Continued.]

Mr. Kearley—continued.

ground itself were these fish returned to the water dead?—I have had an opinion that dead fish have a great tendency to drive the live ones away. My experience is that no fish will take a putrid bait, and I think if the fish becomes putrid it has a tendency to drive the larger fish away, if there are any.

1129. It is admitted by fishermen, practical men like yourself, that that is the effect of throwing dead fish overboard, is it not?—Yes.

1130. You have had experience, probably, of where herring nets have broken and sunk?—I do not understand anything whatever about the herring business, and I cannot say that I know anything about it.

1131. I have heard suggested that where herring nets have sunk and large quantities of herring become putrid, the fish have left that ground for a year, or two years; have you ever heard that suggested?—No; we do at times catch putrid fish, a cod for instance; sometimes two, but still I have not seen that it has made any difference to our haul, we have about the average quantity of fish.

1132. Is it within your experience that dead fish thrown overboard tend to frighten or drive the other fish away?—No; it is only my opinion; I have no grounds for asserting it to be a fact.

1133. Have you any views as to a close season for these particular fishing grounds where the immature fish are caught?—If the sale was stopped that would close it; but if we were to make a close season what would the Germans want to do to us?

1134. It would be useless for us to close the ground you think without there was some international arrangement?—I do not see any necessity for closing the ground if the sale is stopped; the thing to me is in a nutshell. What fish the Germans catch we care nothing for. They have very few steam trawlers, some of those are not up to much, and the few vessels they have are of an old antiquated type, in use ever since I was a boy, and before, for all I know; they have not improved upon them. They fish along the coast, and the small plaice are not a marketable commodity in their country.

1135. Then you do not regard the German trawlers as competitive, do you?—No; there are not enough of them, and they have not proved themselves a good class of fisherman. There are very little fish caught and taken into Germany by their own vessels. I have been in several German ports, and they were very poor lots of fish that the vessels brought in. Twenty of them would not make a good smack's voyage, only, of course, they live cheaper than we do.

Dr. Tanner.

1136. You said that most of the small fish are caught off the Danish and German coasts?—Yes.

1137. You also said that sole are in larger quantities where these small fish abound, and that was one of the reasons you fished there?—Yes.

1138. Is that so at the present day?—No; the soles are now exhausted; there are very few soles indeed caught there now; there is no

Dr. Tanner—continued.

inducement for the vessels to go there only for the bulk of the small plaice. They trust to the large quantity and the chance of a market to pay them. If they can realise 4s. or 5s. a box for the bulk of the fish they get it would make a payable voyage, because they can get 400 boxes of plaice where they could not get 40 in any other part of the North Sea at the present time in a given time.

1139. I understand when you talk of trawling, you mean steam trawling; you are a captain of a steam trawler?—No, I am speaking of sailing vessels.

1140. Where do you get most of these soles that are caught at the present time?—The soles that are caught from Grimsby are caught about the Wellbank, and about 25 or 30 miles from the English coast.

1141. Are they the lemon sole or the black sole?—The black sole.

1142. That is the most expensive, is it not?—Yes.

1143. Of course the codfish you have alluded to are caught in a different season?—We catch that at all times of the year in some places more than others. In some places we catch very few cod; they are chiefly caught in the northern part of the North Sea.

1144. And usually in the winter, are they not?—Yes.

1145. Who are your greatest competitors amongst these foreign fishermen, French, German or Danish?—Well, the Germans have the greatest number of vessels.

1146. You do not meet many of the French fishing smacks?—Not in our part of the sea. I suppose they abound in the south part of the North Sea, but Grimsby vessels do not go in that direction.

1147. In the trawling ground, where do you find all these immature fish; what is the character of the bottom?—Fine sandy ground, very light sandy ground.

1148. Do you find there is a greater abundance at particular times of the year?—Yes, in the summer season from the beginning of March till June.

1149. As to the men going within the three-mile limit, do you say that nothing can be done to stop that?—They go there on their own responsibility. When I am speaking of them catching the small plaice, I do not mean within the limit, they can get them outside the limit, they can get them 15 miles off the land.

1150. Do you find that these breeding grounds are far off the land?—Yes.

1151. How far off the land?—They extend on the average 20 miles from low water-mark; that is on the German and Danish coasts.

Mr. Buchanan.

1152. Did I understand you to say that you would agree to have the landing and the sale of these undersized fish prohibited here even although it was not prohibited abroad?—Yes, I would be satisfied with that personally.

1153. Because most of the witnesses have said they would only agree to it if was an international arrangement?—It would be better if it was international.

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Mr. Buchanan—continued.

international, but my opinion is, that the small fish is so worthless to the Germans, and they destroy so few, that if the English vessels were not to go there, we should find a marked difference in the supply, and my theory is that if we found it did increase the supply, then would be the time that we could say that it was necessary to make it prohibitive to catch them or to molest them at all by any nation.

1154. We have had evidence before the Committee that large quantities of these undersized fish are at present landed in England from foreign vessels, but you would not mind that, I understand?—They would not be allowed to sell them in England if the sale was stopped in England. They could not bring them here, and they will not take them to their own country, because they are worthless there. There were three foreign boats in Grimsby on Friday, and one from the Baltic on Saturday.

1155. Then at present, what you are engaged in principally is fishing on the Dogger Bank, is it?—The Dogger Bank and to the north of that.

1156. Would the prohibition of the sale of these undersized plaice help your fish at all?—No; at the time I saw that 28 boxes sold for 21s., the same day good plaice in Grimsby was making 28s. per box.

1157. But what you advocate, namely, the making it illegal to sell these undersized plaice, would not affect your fishing on the Dogger Bank at all; it would not improve it, would it?—We should hope it would improve it.

1158. How would it improve it?—When the fish grew and got larger, we should have the chance of catching them at a more profitable price.

1159. Is that the only remedy you have to suggest for the improvement of the fishing banks in the North Sea?—That is the best one. As to stopping it, I do not think it is practicable to stop the catching, and the close season, in my opinion, would mean ruination to the trawling trade.

1160. Your fleet, I understand, is a sailing fleet?—Yes; the fleets are all sailing fleets, but with steamers to carry the fish.

1161. But there are a great number of steam trawlers in Grimsby, are there not?—Yes.

1162. But yours, I understand, are all sailing smacks?—Yes.

1163. You told us that the falling off had been much greater during the last ten years in your business?—Yes.

1164. Is not that just the time since steam trawling has begun and developed in Grimsby?—Yes, about 10 or 11 years in Grimsby.

1165. Do not you think, perhaps, the great development of steam trawling has had something to do with it?—Yes, they have had something to do with it. I consider a steam trawler in proportion to a smack is one to three. My experience in the fleet has been such; taking the average of the catch of the smacks with the steamers, it ran about as one to three. If there were a strong breeze the smack would catch as much as the steamer, but where the weather is calm, the smack, of course, is neutral, and the

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Mr. Buchanan—continued.

steamers have the advantage, and can catch fish when we can not.

1166. So that the destruction of these fishing grounds has increased very largely since the development of steam trawling?—Yes, it has.

1167. Have you any remedy to suggest with regard to the fishing grounds in the North Sea, except the prohibition of the sale of the undersized fish?—That is the only thing that I can think of which would help to replenish the North Sea. My experience has been such with regard to the smacks working in prohibited grounds that I am very certain that they could never stop them if there was anything to pay the smacks to run the risk.

1168. And you think they would not observe any such regulations or restrictions, do you?—Not after dark.

Commander Bethell.

1169. In a trawling fleet, what authority do you have as admiral of the fleet, what is your business?—The men simply all have to do as I do. My duty is to place the fleet on a fishing ground, when I put down my net, the other vessels all put their nets down. When I heave up my net that is the signal for all the other men to do the same.

1170. Then if you, as admiral, chose to have shorter hauls, and thereby have a larger number of live fish in your trawls, and a fewer number of dead fish, you could ensure all the fleet doing so?—Our idea is to get as much in a net as we possibly can. We protract the haul as long as we can possibly do so for the sake of the amount we catch. It is the amount that tells.

1171. Precisely, but we have had evidence already that if a trawl brings up a large number of immature fish in its haul then the fish are mostly dead if the trawl has been down a long time, and mostly alive if the trawl has been down a short time?—Yes, that is so; the shorter the trawl, the more live fish.

1172. Do you think it would be possible to regulate the time trawls are kept down with the object of returning to the sea live instead of dead fish, and thereby assisting, at any rate to some extent, to stop the capture?—If we were to make shorter hauls we should exhaust the crew; there is a certain amount of labour attached to this business. Then every time the net goes up and down it means a considerable wear of the trawl, which is an expensive item. The ropes do not wear out while being trawled, but every time we heave up the net and put it down we wear out the gear and run up the expense.

1173. Do you think it would be an important feature in preventing the capture of immature fish if the length of time during which the trawl was kept down was shortened, supposing it could be done. Supposing you were to keep your trawls down a shorter space of time, are you of opinion that would have a material effect on the capture of immature fish?—I daresay there would be a few more of them alive that would be thrown overboard, but the question is with me, how long will a fish live that is only partially alive. They are not strong in life, the best of them

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Commander *Bethell*—continued.

them. After a fish has been enveloped in the net it makes a marked impression on them.

1174. In fact you do not think it would have any very great effect, do you?—I do not think it would have enough effect to replenish the ground.

1175. I am not quite clear about some of the evidence you have given. You told us that the small fish are caught in particular places mostly?—Yes.

1176. But they are, as I understand, largely caught where the sized fish are caught also; that is to say, a trawl will bring up half immature fish and half sized fish?—My experience is not so, not where large fish are. Of course, some of the small are larger than the others, and you would get a certain amount of marketable fish from amongst the small, but the evil has been that the men would not select those; they want the lot.

1177. Then your opinion is, I take it, that if you could prevent men going to these shoal places where the small fish are, the amount of immature fish which are caught with the marketable fish are of no importance?—I think so; of a natural consequence they are bound to grow larger, and if there was no one to catch them they would have a chance to live.

1178. I do not think you quite follow my question. Do you consider the number of immature fish that are caught with the sized fish of such a small amount as not to be of material importance, and that it would not matter if you caught them. Supposing you could prevent the immature fish being taken in the shoal water, where fishermen go now, it would not matter their taking them in the trawl of the marketable fish, which they do in the deep waters I understand?—All the small ones which were taken we should throw overboard and save the big, and they would become large; but my experience is this, what we term a big plaice is quite distinct from one which is a marketable commodity, say, about twice as big as your hand. We do not catch any of those half-sized fish on the Dogger. They are very large fish which you catch on the Dogger and the outlying banks in the North Sea.

1179. To go back to your authority over your fleet, you can, I understand, prevent vessels going into these places?—No; they do not take any notice of me unless they like. If they think there is anything to get, they obey my orders; but I am simply there to place the fleet. If they do not like to come, I cannot make them do that. All I can do is to compel them to pay me the 3*d.* when they come to market. Every vessel will bring their fish to the cutter, and for every consignment of fish that goes to the market, each respective vessel pays me 3*d.* as Admiral's fee.

1180. Supposing they once join your fleet, would they stay with you till the end of the expedition?—Just so.

1181. They will not leave you and go into other places?—No, they go out on the average for eight weeks.

1182. Do you ever take your fleet into these places where the small fish are?—Yes, often to catch the soles, I confess I have. I have taken

Commander *Bethell*—continued.

the fleet into the places where the small plaice have been to catch the soles, and we have thrown the small plaice overboard. I have seen hundreds of tons of small plaice thrown overboard in catching soles.

1183. You regret the necessity, but you are compelled to do it you say?—Yes. I knew I was doing wrong, but we have to do it to compete with our neighbours. A man's reputation as a fisherman is his livelihood, and we knew of nowhere else where we could improve the earnings of the vessels at that time.

1184. Can you tell me roughly in what depth of water you catch the small plaice?—That depends on whether you are north or west of Heligoland Island. To the north of Heligoland Island the average depth of water would run from about 8 to 12 fathoms.

1185. That is for small fish?—Yes, of course you can go further in and be without the limit, and they would be smaller still, but to the west of Heligoland the water would average from about 12 to 14 fathoms.

1186. What is the deepest water you catch large plaice in; what is the deepest water you trawl in?—I have seen large plaice caught in 45 and 50 fathoms of water.

1187. Are they on the bottom?—Yes. If the net comes off the bottom we catch no fish with the trawl. The net has to lay on the bottom, and it is supposed by all trawl fishermen that a plaice always lays on the bottom. The more we can make the net nip the ground, as we term it, the more plaice we can catch, and soles also.

1188. All flat fish?—Yes, but with haddocks we are not so particular. But a trawl that is adapted for catching haddocks is not adapted for catching plaice.

1189. Where do soles spawn?—I am not competent to say.

1190. In shallow water do you think, or have you not noticed?—I have no knowledge upon the subject, and I must confess that I do not know.

1191. We have had evidence from practical men that plaice breed in shallow water, do you think so?—We think so. It has always been an assumption with all trawl fishermen that plaice take fine sandy ground and shallow water for spawning.

1192. Do you feel sure about that as to soles?—I have no experience.

Chairman.

1193. Would it not be more correct to say that the young plaice make their way into the shallow sandy waters?—After they spawn?

1194. Yes; you do not know, do you, that the fish spawn in shallow water?—No; but we had a theory once that the fish spawned and that the spawn floated. There is a great amount of eastern current in the North Sea, on the east side of the Dogger, and I had an impression at one time that this current drifted the spawn over on to the German coast, and it was there deposited.

Commander *Bethell*.

1195. May I ask you as a practical man whether you are of opinion that fishermen would have

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[Continued.]

Commander *Bethell*—continued.

have a better business ultimately if they knew more about the habits of fish; in fact, the science of fishing as well?—I often wish that I knew more. I think it would improve my condition personally. That has been my personal opinion. I have wished that I really understood the nature of fish and their habits.

1196. Do you think that fishermen generally have any desire to gain knowledge on these subjects?—No; I cannot say that I know many who have expressed that desire.

1197. They are not so far advanced yet?—No.

1198. Do you believe yourself that in the business of fishing, as in every other business, anything that science could teach them would be a good thing?—Yes; I believe that a scientific teaching would be good for the fishermen as well as for any artisan.

Colonel *Cotton-Jodrell*.

1199. The Chairman asked you about places which had become more or less exhausted, and you mentioned the Doggerbank; are there any others?—Well, the Doggerbank is the chief ground.

1200. Are there any others?—Yes; there are places on the German coast, and there are places on the Danish coast, where there used to be tremendous catches of large plaice; those are all exhausted. Off the Island of Burgholm was one, and the other was off the coast of Denmark, below the Horn's Reef. In the vicinity of the Horn's Reef there used to be tremendous catches of large plaice, and now there are practically none. I have seen there 200 baskets of plaice caught in a night, and I do not believe the trawl was twice the length of this room. When we first went there and discovered the plaice, we caught 200 baskets of plaice.

1201. How long was that ago?—That was in the year 1868.

1202. You could do that now, could you?—We could not go and get 10.

Sir *Albert Rollit*.

1203. Are you speaking of near the Burgholm?—No, to the north of Horn's Reef. At the Burgholm there used to be large catches of plaice, and it is completely exhausted. There are small plaice caught now off the Burgholm, but closer in shore.

Colonel *Cotton-Jodrell*.

1204. You said, with regard to the international question and the sale of this undersized fish, that you did not think the Germans mattered very much because they did not catch what we wanted; how about the Dutch?—The Dutch vessels do very little trawling.

1205. We have had it in evidence here from almost every witness that there are very large numbers of fish sent over by the Dutch?—Yes; they are caught to the southward of any limits where our Grimsby vessels go. I confine myself to the grounds which I have worked. I do not profess to understand grounds where I have had no experience. It is only from actual experience that I am speaking.

O.93,

Colonel *Cotton-Jodrell*—continued.

1206. You mentioned trawlers going to the south of Lowestoft and the Bristol Channel; those are not your trawlers, are they?—No. I mentioned soles coming from there. They are caught by Lowestoft smacks and vessels in the vicinity of Milford and sent to Grimsby on the chance of its being a better market. The same with the Dutch soles that come very possibly; a consignment of six boxes of soles might be caught by 20 Dutch vessels.

1207. What length of trawl beam do you use?—The average length of a smack's beam is 50 feet.

1208. Can boats with trawls of that size get within the present in-shore limits, the three-mile limit?—On the other side the German coast, yes.

1209. There is deep water there?—Yes; but there is nothing to pay them to go inside; it is very rarely they go within the limit.

1210. One witness as to the question of the limit has said that both on the English, as also on the foreign coasts, he would like to see the shore limit extended to 10 miles instead of three; how would that suit you?—I should be content to have it extended to 20, as far as I am concerned, because I never fish near the shore; but the trawlers do not fish near the English shore in proportion as they do on the other side of the sea. There are only a few places along the English coast where trawling is carried on close in shore, and those I have never worked. I only know from report what those are; I have had no experience of them personally.

1211. I asked you that question as regards yourself; now how do you think it would suit the fishing interest generally if the limit was extended?—I have no personal knowledge as to what amount of small fish is caught in the estuaries say of the Humber and Lynn deeps; I have no knowledge whatever of their fishing. I do not know that I have ever conversed in my life with a man who has fished there, so that it would be useless for me to make a statement on a subject I do not understand; in fact I should not care to do so.

1212. I want to ask you one question about your position as admiral upon which I am not quite clear; do you say that as admiral you can take a certain number of fishing boats and place them on a ground?—Yes.

1213. But after that, as I understood, if they are not subject to your jurisdiction, and if they do not like to stay, they can go away?—Yes, that is so; every man uses his own judgment, that is when we are working on the boxing principle. There are two principles of fishing; one is termed bulking; that is where all the vessels fish together and share equally, and of course it behoves every man then to obey the instructions of the admiral, and to catch as nearly as possible an equal amount of fish; but when a man is boxing, the more he can catch for himself the more he gets. He simply pays the amount of carriage that the number of boxes come to that he sends in, but the more boxes of fish he can catch the better the result for himself. It is the common case if a man thinks he knows a little better than the admiral, to go on one

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[Continued.]

Colonel Cotton-Jodrell—continued.

side of the fleet, and very often he gets a bit more; it is not always the best man who is admiral of the fleet.

1214. What particular advantages are they supposed to get out of you for this fee of 3*d.* that they pay you?—Well, if the fleet is large, it amounts to a considerable sum. Say there are 100 sail of vessels in the fleet, then you could average one cutter per day, and I should get 100 threepences per day, besides the catch of my own vessel.

1215. What I mean is this: do the men come to your fleet because they consider your experience is so great that it enables you to put them on the best grounds for fishing?—I would rather let the men answer that question.

1216. I do not quite see what they get for paying you 3*d.*?—Their advantage is in getting the steam carriage to bring the fish to market; that is the inducement that brings the men to the fleet. The inducement is that they have the steamer to get the fish to market quicker, fresher, and in a more marketable condition.

Mr. Mallock.

1217. With regard to these fishing grounds that become exhausted, they do not remain permanently so, I suppose?—Well, they are not totally exhausted; there are still small kinds of fish caught upon them, but the quantity varies very much. Sometimes you get an amount that would pay you, and then possibly the next voyage you would be loitering about for a week or a fortnight, perhaps, hoping to get the same result, and the end of it would be that it would be a bad trip.

1218. How soon would they become replenished again if they were not fished?—That I could not say.

1219. You say you have no steam trawlers in your fleet; are there steam trawlers from Grimsby?—No steam catching vessels; the catchers are sailing vessels, but the carriers are steamers.

1220. Are there no steam trawlers in Grimsby?—Yes, but they all go on their own account, what we term the single boating principle.

1221. And you think that the decrease has been due to the steam trawlers, do you?—I think that they have had an effect on the decrease.

1222. Any more effect than that they catch more than an ordinary smack?—Yes; I consider the proportion of a steam trawler is one to three. One steam trawler would kill as much fish as three average smacks under ordinary circumstances.

1223. With regard to what you say about plaice, you say that plaice would not be landed if they could not be sold; does that apply to soles as well?—No.

1224. I mean if small soles were unsaleable?—I would bar all small fish from being sold.

1225. You say the plaice would not be caught if they were not saleable; would small soles be caught if they were not saleable?—No.

1226. They would not?—No.

1227. And the only way, you think, of getting over the difficulty would be by prohibiting the sale of small fish?—I do.

Mr. Mallock—continued.

1228. Could there be no arrangement made about the prohibiting the landing of small fish simply?—No; I think that stopping the sale of it would be the best measure.

1229. What limit would you put?—To the size of the plaice.

1230. No; taking the size of the soles?—Eight inches in length.

1231. Would eight inches satisfy you?—Yes.

1232. Have you had any experience of fishing on any other coast?—No; I have never been out of the North Sea fishing.

1233. Do you know what a south coast fish is as compared with a North Sea fish, taking a sole?—No.

1234. You do not know that a sole from the south coast is a better fish than the North Sea fish?—No; I do not know that I have ever seen a fish that has been caught on the south coast of England.

1235. It has been suggested here that the time that a trawl should be down should be limited to two hours; would that be possible?—It would be possible, but very inconvenient. I am afraid I should not get a crew to go with me two trips to do it.

Sir Albert Rollit.

1236. Can you suggest where the fish go to from localities such as the Dogger, and the like; is it a question of food?—Yes; I consider they are the feeding grounds.

1237. Then would you say, for the same reasons, that they are coming out from the shore or not going in, whichever it may be, was also a question of food supply?—Well, fish have always appeared to me to be migratory. They appear in different parts of the sea at different times of the year. It is part of a fisherman's calling to understand the times when the fish should be there. There was a time when they could almost define it; now it is getting very difficult.

1238. What is the frequenting of particular localities and the cause of migration, in your opinion; is it food?—The different qualities of food.

1239. So that really you could draw a line practically by the depth of water, could you not; it is a question of depth, is it not, as well as food?—No; you catch the same kinds of fish in various depths.

1240. But not in anything approaching the same quantity; I am speaking only of small fish?—Yes; you can draw the line at the depth of water along the Danish and German coasts.

1241. And elsewhere the catch of the small fish is insignificant, I understand?—It is.

1242. Is it your opinion then that as they grow larger they would go to the Dogger and the other places?—I think they would seek deeper water. My experience has been that the further we get from the shore, though the fish are still small, they are larger.

1243. But, on the other hand, large fish are caught on the banks?—Yes, but they are out-lying banks. They are very large fish that are caught on the shoals of the Dogger, and there the water is nine fathoms in depth.

1244. Have you found fishing grounds which have gone to the bad that have recovered by being left alone?—I do not know of a fishing ground

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Sir *Albert Rollitt*—continued.

ground that has been left alone sufficiently long, but the fish have returned after a time, though not in the quantities they have done before; but the custom of fishermen is this, that the men still persist in going to where the fish did resort, and examining the ground on the off-chance that they may have returned. I have done so, to my own misfortune, several times, and wasted time in doing so.

1245. You were asked about the payment to you as admiral; is it not part of your business to know what are the likely fishing grounds, and to heave there?—Yes.

1246. That is what you get paid for, is it not?—That is the reason I am chosen by the owners.

1247. And your principal remedy would be to remove the motive for going to these fishing grounds; you think that would be an effective remedy, do you?—I think that would have the desired effect.

1248. Have you gone further off, to Iceland at all?—I have not been to Iceland. I have been to the North of Scotland, Orkney and Shetland, and up the Kaltegat.

1249. Have you been to the coast of Ireland?—No.

1250. As a matter of fact, vessels do go to the coast of Ireland and the Bay of Biscay, and long distances, do they not?—Yes.

1251. Supposing any arrangement were made to prevent the landing and sale in England of these small fish, do you think that our boats would take them to countries where there was no prohibition?—That I could not answer.

1252. Do they now; do they take them into countries where there is no prohibition. Perhaps you can tell me this—there is a law in Belgium—is it in force?—I have not heard of any steam trawlers going in there with any small plaice. The kind of fish we usually take to Ostend is haddock.

1253. Is there any place on the Belgium or German coasts where there is a demand, or was a demand, for these small fish?—In Holland you could sell them, but not to better advantage than in England.

1254. But supposing the landing and sale were prohibited in England, would there be any danger of our vessels taking them into Dutch ports?—I think not. I think the men would be only too glad to leave them alone. The feeling in Grimsby is so unanimous that it should be put a stop to, that I believe the men would settle down to it, and would think it is a right measure.

1255. Then you think all that is required to be done is to prohibit the landing and sale in Great Britain or Ireland of the under-sized fish?—Yes.

Mr. *Harry Foster*.

1256. Do I understand you to say, that in your experience, the principal cause of the destruction of the fish is due to the action of the steam trawlers?—No; the smacks have done their proportionate share.

1257. What do you think is their proportionate share?—As one to three. I compare one steam vessel to three smacks.

1258. Then you think the steam trawlers have

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Mr. *Harry Foster*—continued.

done three times as much damage as the smacks, do you?—Yes, I should think they have.

1259. Is it the fact that the steam trawlers very frequently have their trawls down practically continuously, and that as fast as one trawl is brought up the other is let down?—Yes.

1260. Is it the fact, within your knowledge, that a very large quantity of undersized fish are thrown overboard in the North Sea?—I could not say at the present time. There has been; I have thrown a great deal overboard myself.

1261. What do you say as to the present time. Does not your experience go down to the present time?—I have not been on that coast now for two years. I gave it up because it was not profitable. The soles were taken off, and I would not go personally to destroy the small plaice, and I have not been on the German coast now for two years.

1262. Then you recommend, as I understand, a prohibition of the sale of fish below a certain size?—Yes.

1263. You said, with regard to soles, that the minimum size, in your opinion, should be eight inches?—Yes.

1264. What is your opinion with regard to plaice?—Nine inches, or even ten.

1265. Can you explain how a prohibition of the sale of undersized fish would prevent those fish being caught in the trawls?—Yes; no one would go to catch fish that he could not sell.

1266. But would not they still go to catch larger fish?—There are no larger among the small plaice at the present time.

1267. Would it stop fishing altogether, then?—Yes, on that coast, with English vessels.

1268. But not with foreign vessels?—No.

1269. Would you recommend a course by which the English fishermen would be prevented fishing there, and the foreigners should be allowed to fish there?—Those fish are not marketable in foreign countries; they have no sale for them; they bring them to England. My experience of Germany is that you cannot sell them in Germany. I have tried to sell them there, and had to throw them overboard.

1270. Then you think the effect of bringing about this prohibition would be to stop fishing entirely in certain parts of the North Sea for English fishermen?—I am only speaking of the German coast.

1271. Do they get a living there now?—They do get a living with the quantity of fish that they destroy. For instance, a vessel landed 400 boxes of plaice on Saturday for just over 100/.

1272. Would not the effect of your recommendation be to prevent a large number of people who are now getting a living from getting a living?—No, that man would have gone elsewhere, and got a living in another part of the sea, perhaps by catching haddocks. It would not prevent him getting a living, it would only send him somewhere else, and by preventing him going there it is my opinion, eventually, the size of the fish would increase, and we should all get a better living. That is the opinion of every man, I believe, in Grimsby, or at any rate of every man I have conversed with.

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1273. Is

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Mr. Harry Foster—continued.

1273. Is it your opinion that any alteration should be made as regards the three-mile or any interference with the three-mile limit round our own shores?—I have had no experience of fishing inshore on the English coast; it would not affect me, and in fact I do not know of any trawlers in our country that fish within the three-mile limit with the exception of a few at Scarborough.

1274. Then you do not think any damage is done within the three-mile limit to speak of?—No, not as regards the large trawling smacks.

1275. And they are the ones that do the damage, are they not?—They have the blame; of course I do not understand anything about river fishing or fishing in estuaries, I cannot speak from experience of that.

1276. May I put it in this way, that as far as your experience goes there is no serious damage done within the three-mile limit?—No.

1277. I may put it in that way, may I?—Yes, and I cannot say that I have seen any damage done within the limit.

Mr. Kearley.

1278. In trawling is it customary to trawl the tide?—Yes.

1279. Is that the reason why you keep the trawl down for so long?—Yes. When the tide and wind are both in one direction, that is a favourable tide for us. With a weather tide it is no use putting a net down, therefore we keep the net down the whole of the lee tide, if possible, that is, and if the condition of the ground will allow us. One part of my duty as admiral is that I should sail the fleet in a certain direction, which would allow them to drift six hours with the tide.

1280. That accounts for what one of the witnesses said. In the winter time, say, it is the custom to make two hauls in the night. If we were to make three or four it would be at a great sacrifice, because it takes a certain amount of time to get up the net, and all the time the net is off the ground it is catching no fish, and one hour in the dark is generally as good as six in the daylight.

MR. JOHN LITTLE, called in; and Examined.

Sir Albert Rollit.

1281. You are, I believe, a smack owner, residing at Plymouth?—Yes.

1282. And, as we know, you have taken a large amount of interest at the Sea Fisheries Association on this question?—Yes.

1283. You have heard the evidence of the Hull and Grimsby witnesses that it would be desirable to prohibit the landing and sale of the undersized flat fish; do you agree with that, or not?—I agree with that from their standpoint, but I disagree with it from our standpoint.

1284. Will you explain your position with regard to that?—My position is this. We say that on our grounds, and on any ground where no steam trawlers are at work, there is no falling off in the supply of flat fish; and as we are not sinners in the same manner as the Hull and Grimsby men are, we disagree with any legislation which would do us an injury without doing any good. We say, where our vessels work, there are no known breeding grounds; there is no place I know of in the whole of the English Channel where a vessel would go to catch a larger proportion of small fish than others, so that whatever legislation was enacted on the subject, it would be simply making us throw away saleable fish, and it would not improve the supply of flat fish at all.

1285. Then you say whatever may be done at, say, the German or the Belgium coast, should not apply to the narrow waters to the southward?—Yes.

1286. Is that what you mean?—That is my contention. My idea is, that I would not seriously oppose the adoption of the sizes that have been adopted by Belgium and France, but at the same time, as far as deep sea trawling is concerned, I do not believe it would do any good whatever; I believe vessels would go into exactly the same places, would capture the same

Sir Albert Rollit—continued.

amount of small fish, and the fish would be thrown overboard and do more injury to the fishing ground than if they were brought to the market and sold.

1287. Is that on the ground that those sizes are too small to be of practical service?—Yes; I believe if those sizes were adopted, limiting the areas within which the small fish was caught, it would be effectual.

1288. You think that a mere prohibition of landing and sale of certain sizes, without prohibition of area, would not be effective?—No; not as far as any coast was concerned, with the exception of the German Ocean; those parts of the German Ocean where the Hull and Grimsby vessels have been fishing.

1289. What view do you take on the question of the size of the mesh?—I would oppose enlarging the size of the mesh of a trawl to allow undersized flat fish to escape. I think there should be some limit as to the size of the mesh; that is to say, that it should not be allowed to be too small, but to enlarge the size of a mesh that, for instance, would allow a 9-inch or 10-inch plaice to escape would admit of the escape of a 15-inch sole. Plaice, turbot, and brill, are, of course, wider than a sole. Not only that, a sole searches about in a net much more than a turbot would. It curls up more, and searches about in the net. It is well known that a sole will search about in a net more than any other fish will. Then, again, we get a quantity of red mullet. A mesh that would allow of the escape of a 7-inch plaice would never capture a red mullet. Another reason why I object to a large mesh is that the mesh would have to be very large indeed, because when the strain is on the net the twine contracts, and the mesh contracts together, so that it would be only on the back of the trawl where the mesh would remain open, and you would

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Sir *Albert Rollit*—continued.

would have to have a tremendously large mesh to allow of the escape of a decent sized fish.

1290. So that in the narrow waters you do not think that either a prohibition of landing or sale or any dealing with the mesh would be effective or is called for?—No, I do not think so.

1291. Has there been a falling off in the size of the fish which have been caught?—Not on our coast.

1292. Has there been any improvement latterly?—Well, the last two years, where our vessels have worked on the home grounds, the catches per vessel have been larger than have been known by the oldest inhabitants in the neighbourhood. There are no steam trawlers at work there, of course.

1293. We will get to your enemy the steam trawler in a minute. How do you account for that?—I can only account for it in this way, that our vessels have worked other districts as well as the home grounds. The fleet have not increased in very large numbers, and the grounds have been allowed spells, and had a chance of re-stocking.

1294. In other words, you attribute it to the absence of over-fishing?—Quite so.

1295. When you say your vessels have gone elsewhere, where have they gone to?—The larger vessels have gone more to the Mounts Bay and fished from the Lizard to Scilly and the Bristol Channel and along the Irish coast.

1296. Landing their fish where?—Landing their fish sometimes at Plymouth, sometimes at Milford, and sometimes at Penzance.

1297. Have they gone to the west coast of Ireland at all?—No, the south coast.

1298. When they go to the south coast of Ireland would they bring their fish to Milford?—Generally; but sometimes to Plymouth.

1299. Would they land it at any of the Irish ports?—No; very rarely.

1300. What do you say about steam trawling?—I say that this question would never have arisen had it not been for steam trawling; that steam trawling by its method of operation gives the ground no rest, and that is the reason the ground has got depleted. Six or seven years ago many of the Lowestoft, Yarmouth, and Plymouth smacks fished in the Bristol Channel. They were the first, I think, to fish for soles off St. Ives, and just above Lundy. They went there for two or three months in the early part of the year and had good takes; the steam trawlers heard of those grounds, came there, and now there is scarcely a sole to be caught.

1301. Do you urge anything against the steam trawler, except increased power of capture?—I mean to say on account of their being able to fish, whether the weather is calmer, whether the wind is from the east, west, north, or south, they grub up the ground very much quicker than a sailing vessel would.

1302. So that your allegation comes to this again, that it is a case of over-fishing?—Yes.

1303. Which the steam trawler has been guilty of?—That is so.

1304. What are your remedies?—My remedy is this. The limit of areas prohibiting trawling, seining, or any kind of fishing for flat fish 0.93.

Sir *Albert Rollit*—continued.

within those areas. It is a well-known fact, that most flat fish breed in deep waters, and when the young fish have an independent existence they come into shallow waters during the summer months, and I would prohibit any kind of fishing, whether seining or trawling, within the limit during those months when it is known that the small fish frequent there.

1305. Would you have a close time by international agreement?—I would outside territorial waters, but I think it would be well if it could be managed to extend territorial waters for fishing purposes.

1306. For fishing purposes merely?—Yes.

1307. What do you say about closing certain areas; do you think that would be practicable?—Yes.

1308-9. What about the police for that purpose?—When it is a fact that there has been only one gun-boat between the Thames and the Firth of Forth, that is scarcely an efficient police, but if there was an efficient police and a few of the men were summoned, and the commodores of the fleets especially, I think there would not be much breaking of the law.

1310. What would you say would be an efficient police, a civil police or a naval police?—It would have to be a naval police, and would be something to do for our ships—fast cruisers.

1311. What do you say about the Sea Fisheries Regulation Act of 1888, would you amend that in any way?—I think if the territorial waters were extended, the district Committees formed by the Sea Fisheries Regulation Act of 1888 would be the proper bodies to deal with those districts. They should, from their local knowledge, be more in possession of facts than any central body; but at the present time I do not think those committees are rightly constituted. I think as they are at present constituted they would be very much better for dealing with agricultural matters than fishing matters, but if these bodies were constituted in a proper manner, that is to say, by people who understood the fishing business, the fish trade and fishing requirements, they would be the right bodies to deal with subjects such as close times and limited areas on the coast.

1312. Would you give to local committees powers to regulate the fishing of the North Sea generally, or how would you deal with that? I am not now speaking merely of the inshore waters or the three mile limit?—That would be a question of international arrangement, and would have to be done through the Governments of the different countries.

1313. So that your remark as to the powers and jurisdiction of the fishery committees would only extend to the inshore waters?—Yes.

Mr. Mallock.

1314. What you have said about Plymouth would apply to the rest of the coast along there I suppose?—Yes.

1315. How far up the Channel do you consider it would apply?—I believe it would apply to the whole of the Channel as far as Ramsgate.

1316. All the south coast?—All the south coast, I think.

1317. Also to the Bristol Channel and the Irish

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Mr. LITTLE.

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Mr. Mallock—continued.

Irish coast where our fishermen go a good deal?—Yes.

1318. With regard to the limitation of areas how would you propose that that should be dealt with? Would you deal with it by the fishery committees, I mean as to defining the areas?—I think so as to the inshore fisheries. I contend now that there is a great destruction of undersized fish takes place all up and down the coast, especially with seines. They land a quantity of small fish. The committee of which I am a member have passed a bye-law to prohibit all trawling within bays, but have allowed seining; and we contend that where a trawler destroys a ton of undersized fish, the seines destroy ten. I counted no less than eight seines at work in the river Exe as I came up yesterday.

1319. But you would be content to leave the definition of the areas and the management to the local officials, would you?—If properly constituted, yes; but as they are constituted at present, I should not.

1320. How would you alter the constitution?—By popular election. Now the fishery members are appointed by the Board of Trade, and so far as we are concerned, without any regard to the numbers engaged in the trade.

1321. In your opinion, if this undersized fish is once brought up in a trawl, as far as those fish living is concerned, is it any use putting them back again?—As far as trawling is concerned, no; as far as seining is concerned, yes.

1322. Are you of opinion if they are caught in that way, it is a pity they should not be landed?—Yes.

1323. They are useful, I suppose?—They are saleable and eatable.

1324. Does much of them go for manure?—The flat fish?

1325. Yes; the undersized flat fish?—Very little indeed. In fact, our vessels do not catch a lot of undersized fish. The waters where the trawlers work are mostly deep waters; we set 25 or 30 fathoms within a mile of the shore, and the small fish on that coast get into the bays on to the sand, so that really there is very little undersized fish where our deep sea trawlers work.

1326. Do you consider an 8-inch sole, caught on the south coast, is just as valuable a fish for food as a larger sole caught elsewhere?—It is generally considered so, and there is another reason, and that is one of the reasons why I opposed the resolutions at the various conferences that have been held. It is a well known fact in natural history that soles will breed at a smaller size in the waters of the English Channel than in the waters of the North Sea; a sole on our coast will breed from 11 to 12 inches, and will not breed in the North Sea until 13 inches, and Iceland 15 inches, so that the warmer waters mature fish quicker, and there is more flesh on their bones at 10 inches than in the colder climates at 12 or 14 inches.

1327. Therefore, the effect of limiting the size of saleable fish would have a different effect on one coast to what it would have on the other, would it not?—Quite so.

Mr. Mallock—continued.

1328. Were you present at the Sea Fisheries Conference three or four years ago when there were representatives from Belgium and foreign countries, when there were fish produced from different parts of the country?—I was not present then; 1891 was the first conference I attended.

Colonel Cotton-Jodrell.

1329. You said you did not think much legislation was called for in respect to the size of the mesh, except that it should not be too small. What sized mesh would you call too small; on the assumption that the fish are the same as those which you catch in your waters?—I do not think any restriction of net is necessary for the capture or escape of flat fish. But what I was specially referring to then was simply round fish, such as small whiting, gurnet, and haddock, and fish of that description; of course a round fish would get through a very small mesh. I think the mesh should be large enough to admit the escape of such fish as that.

1330. You said a mesh which would let slip a 9-inch plaice would let slip a 15-inch sole?—Yes.

1331. What would be the weight of that sole?—One and a-half pounds. You see the Hull and Grimsby fishermen are advocating the 8-inch sole, and the 12-inch plaice, and I say what would allow an 11-inch plaice to get through, would admit of the escape of a 15-inch sole.

1332. And the same, I understand, would be the case in the Irish Channel?—That would apply to any coast, it would make no difference where the fishing was being conducted.

1333. What you have said as to the difference in the size of soles in the North Sea and in the English Channel, I suppose, would apply to the Irish Channel; the Irish Channel and the English Channel are pretty much the same, I suppose?—Yes, it would be quite a question of the temperature of the water.

Commander Bethell.

1334. Has the price of fish gone up during the last few years?—Not very much, it has increased but not a great deal.

1335. Nothing like it has gone up in the North, has it?—No, the railway rates kill us in the West of England; we are under the Great Western Railway Company, who are continually raising their rates, but the price of the fish does not increase.

1336. Have any steam trawlers come in and competed with you in the south?—As far as steam trawl fishing on our grounds is concerned, no. Our grounds are too restricted for steam trawlers; they come in from the Bay of Biscay and sell in our markets hake, but on the grounds of the south coast there is very little fishing done by them.

1337. Why?—The grounds are too restricted.

1338. Do you mean to say they could not fish?—They could, but they could not get enough to make it pay.

1339. Then you do not anticipate having any competition with steam trawlers, do you?—No, not

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Commander *Bethell*—continued.

not so far as flat fish is concerned. In our own market of course we have great competition with steam trawlers at the present time. There is a large Hull fleet fishing in the Bay of Biscay which comes into Plymouth with hake.

1340. So far as your own locality is concerned, you do not believe the steam trawler will come in?—No.

1341. So that you do not care how much about this proposed legislation?—We object to it because we say it is done in the interest of those who have sinned; they are killing the golden goose on their own grounds, and we object to there being legislation which would make us destroy part of our income without doing a bit of good.

1342. All the witnesses who have given evidence about the size of a mesh have talked as if the mesh was always contracted, but that is not the case, is it; the trawl rope rapidly slacks up, does it not, and then these things open, and that is when the fish get out?—The only time when the net would open materially would be when the trawl is hoisted out, and then the fish get down into the end of the purse, the fish jam down into the coddend; that would open the mesh, but when the trawl is towing the under part would remain tight, but the back of the trawl, on account of the action of the tide going through it, would be open a bit, though nothing like to its full extent.

1343. But it would open largely?—No, not very much.

1344. Because every witness has told us that when they are trawling the mesh is drawn taut, but as a matter of fact the trawl rope is constantly slacked, is it not?—No, it is constantly tight when the vessel is moving, although the foot rope is longer than the trawl beam, and makes a circle, but as the vessel is moving it is kept continually taut, the net contracts considerably, and nearly closes, but still there is an opening which would be on the upper part of the trawl through the action of the tide going through it and bulging it open like a balloon.

Mr. *Buchanan*.

1345. Do you consider the prohibition of the sale of undersized fish is not wanted with regard to you at all?—No.

1346. And would be detrimental to your fishing, would it?—It would be detrimental, and I think would be ineffective in nearly every case with the exception of one or two cases that have been described by the Hull and Grimsby men.

1347. The remedy to which you look for the improvement of our fisheries is in the limitation of areas and in the restriction of a certain mode of fishing, is it?—Quite so.

1348. Particularly with regard to steam trawling?—I would prohibit all kind of trawling within areas where it is known that young fish resort.

1349. I see in the Cornish fisheries district, the committee has prohibited steam trawling?—Yes, and in the Devon sea fisheries district as well.

1350. So that that would show that you suffer already from steam trawling, would it not?—

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Mr. *Buchanan*—continued.

Yes, there have been a few steam trawlers from Falmouth, tugs that have gone trawling in bays during the times when there are no vessels to tow. They watch for vessels to tow to Falmouth, and when there are no vessels in sight they use the trawl in the bays, but that has been prohibited by the two committees I have mentioned.

1351. Would you be in favour, if it could be done by international arrangement, of restricting that mode of fishing outside the territorial line?—That is a very large question. I am afraid it would not be practicable to stop steam trawlers, but I am in favour of limiting the areas by international agreement, and allowing no kind of trawling, whether by steam or sailing vessels.

1352. You would be in favour of areas outside the territorial limit?—Yes, in some places. I do not know of any places except those few places in the German Ocean where such a thing would apply.

1353. In regard to restricting steam trawling, or any destructive mode of fishing, outside the three-mile limit, would you be in favour, say of trawling in the British Channel?—I should be in favour of doing anything against steam trawling. I contend where there is nothing but sailing vessels there is no falling off whatever in the supply of fish. The steam trawlers not only brought steam trawlers into vogue, but have also brought the capitalist into the business who does not understand fishing and the supply and demand. Sailing vessels are either owned by small men in the fish trade, or men at sea, who own part of their own vessels and have borrowed money on them on mortgage. Where vessels have been so owned by men in the trade they know the requirements, they know when there has been a bad season and when districts have been over fished. Consequently there have been no vessels built, and none added to the fleet for a time. But when the good times come again they have begun to work again. With the introduction of these capitalists at Hull and Grimsby, however, the vessels have been increased and the thing overdone. If it come to all steam trawlers I contend you will have no Naval Reserve men, for nine-tenths of the fishermen are Naval Reserve men.

Mr. *Harry Foster*.

1354. You said that the steam trawlers give the ground no rest; what did you mean by that?—I mean to say that steam trawlers can work whether there is a calm or whether there is wind. It is a well-known fact that sailing vessels cannot work when there is a calm or when the wind is very light. Again, where the grounds are restricted, or almost on any ground, a sailing vessel has to go with the tide and with the wind on its quarter, and can only go in one direction. I mean with an easterly wind, part of the ground does not get fished at all by a sailing vessel and so on, and the same when the wind is in other directions, so that that gives the ground a rest with sailing vessels, but does not with steamers.

1355. Is there any difference in the speed at which the trawl is dragged between steam and sailing trawler?—There would be a little but not

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Mr Harry Foster—continued.

very much. I should say it would depend very much on the length of the beam.

1356. You say that where there are no steam trawlers the supply of fish is well maintained?—Yes.

1357. It would not be correct, would it, to say that it is merely a question of over-fishing; that is to say, if twice the number of sailing trawlers were on the ground would they do the same damage that a steam trawler would do by its method of fishing?—No, I do not think so, because whatever number of sailing vessels there were the grounds would have respite during calms and when the wind is from different directions.

1358. So that it would not be correct merely to say it was a question of over-fishing?—No.

1359. It is a question also of the methods employed by a steam trawl?—Yes; that would be a question of over-fishing too.

1360. That is to say, it would never be physically possible for any number of sailing trawls to do the damage which may be done by steam trawls?—That is so. Of course, a number of sailing vessels could over-fish a place, but not like steam trawlers could.

1361. In other words, there is a compulsory close season, so far as sailing trawlers are concerned?—Yes.

1362. That has been the case this year, has it not?—Yes.

1363. For weeks at a time?—For weeks at a time sailing vessels have not been able to work at all, on account of there being very little wind.

1364. I understand you are opposed to any prohibition upon the sale of what is called under-sized fish?—Yes, practically, I am.

1365. Because you say any prohibition would affect you the same as other people?—I should not seriously oppose it. I mean to say this, if the areas were not to be limited, I should not seriously oppose the adoption of the sizes adopted by Belgium and France. I would rather favour that on account of the shore fish, but as far as deep sea fishing is concerned, I believe it would only be meddling with our business without doing good.

1366. But if you prohibited a sale in the market, you could not trace the direction from which the fish came, could you?—I think so, generally through the salesman.

1367. Would that be practicable?—I think so; you could make the salesman divulge where he got the fish from.

1368. Do you think it would be practicable to have a law making it illegal to sell soles of a certain size if they came from a certain place, but not otherwise?—No; I do not think it would.

Colonel Cotton Jodrell.

1369. What, in your opinion, is the maximum size which you would describe as unsaleable fish; plaice and soles?—Anything under the Belgium size, 7½ inches for all fish except turbot and brill; and turbot and brill, 10 inches.

Mr. Harry Foster.

1370. I suppose what you mean is that if there is to be a limit at all, it should not be higher than the Belgium limit?—Yes.

Sir Albert Rollit.

1371. Do you not agree with the sea fisheries limit, and did you not vote for it?—No, I led the opposition, I think.

Mr. Harry Foster.

1372. Then as to the questions which have been put to you about the North Sea, would it not be more correct to say that you are not opposed to regulations for defining areas?—I should favour it.

1373. You actually favour it?—Yes, whether it is in the North Sea or whether it is on our own coasts.

1374. By international agreement?—By international agreement, and international waters, and by the lie of the land in our own territorial waters.

1375. Would you be in favour of any limitation being put upon our own men in international waters unless it was equally put on the fishermen of other nationalities?—No; whatever international agreement was come to it should be binding on all the parties to the agreement.

Mr. Kearley.

1376. Your business, I believe, takes you into other parts of the country besides the west, does it not?—Yes; several times in the year I visit every fishing centre in the United Kingdom almost.

1377. Have you taken advantage of the opportunities offered you to study the question in other parts?—I have.

1378. Do you find a unanimous opinion that this proposed legislation is necessary?—I do not find any call for it at all outside the Humber; that is to say, a *bonâ fide* demand for it amongst fishing people.

1379. May I take it that it is your opinion that this demand proceeds from Hull and Grimsby only?—It is so, no doubt.

1380. Can you give us your opinion as to why that demand exists there?—The demand exists there because, as I have already stated, the grounds where most of their vessels have been fishing are over-fished, and they are willing to adopt any remedy to bring about a better state of affairs.

1381. But there is no necessity for any such remedy to be applied to the west, because the fishing grounds there have not been over-fished; is that your opinion?—That is my opinion.

1382. Do you attribute this over-fishing solely to the prevalence of steam trawlers?—Yes, I do.

1383. Nothing whatever to do with the nature of the water in the North Sea, or anything of that sort?—No.

1384. It arises solely from the fact that the waters have been unfairly treated, if I may say so?—Yes.

1385. You have attended the various conferences that have been held, have you not?—Yes, I have, since 1890.

1386. And

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Mr. Kearley—continued.

1386. And have taken, I understand, rather an active part in the discussions?—Yes, I have.

1387. Have you made yourself heard as regards your opinion there?—I have.

1388. Would it be fair to suggest that you have been the leading opponent at the conferences?—I think so, or one of the leaders.

1389. Do you find your views making headway?—Until the last year, or 1891 and 1892, there were very few delegates from any part of the country but from Hull, Grimsby, and Billingsgate, and the representatives were, I think, only one from Yarmouth, one from Southampton, two from Brixham, and one from Plymouth, so we were out-voted. This year, when the same majority sought to limit the reference of the inquiry of this Committee, I carried an amendment against them.

1390. Was that, possibly, because you had got a bigger representation this year?—I think so.

1391. Whereas, in other years you had not?—That is so.

1392. Do you intend to convey to the Committee the idea that the expression of opinion that was given in previous years came from a body that were predisposed towards the legislation they advocated?—Yes, I think so.

1393. And that, had other fishing districts been more strongly represented, it would not have been so?—Yes; I think one year there were between 50 and 60 from Grimsby only.

1394. I put it to you again, that when these expressions of opinion were given at conferences that were held prior to the one this year, the representation then was comprised mainly of those who were interested in the Hull and Grimsby fisheries?—That is so, the great majority.

1395. And consequently, so far as regards the other places, the expression of opinion was not applicable?—No.

1396. We have had evidence here from Mr. Towse, who is secretary of the National Sea Fisheries Protection Association, and he mentioned that that body represents some 80,000 fishermen?—I think that wants qualifying. Of course I should be very sorry to depreciate the work of the Association; I am a member of the Association and a member of the Executive Committee, and I think they are doing good work. But I scarcely think we can say we represent the whole of the fishermen of Great Britain. It is a fact that there are only affiliated societies and branch associations in about sixteen or seventeen different towns out of three hundred different fishing towns on the coast.

1397. How many fishing towns do you say there are?—About 155 or 160 in England and Wales, and nearly an equal number in Scotland and Ireland.

1398. I think we had it that there are 15 branch associations?—Yes, I think so.

1399. Do you quite agree that that Association is doing good work?—Yes; and nobody has done more in the past twelve months to increase its membership than I have, I think.

0.93.

Mr. Kearley—continued.

1400. You have given us some of your reasons for opposing this suggested legislation, and amongst others you have mentioned the fact that the fish in the west continues to be as good or even better than it was in years gone by?—That is so; and I believe that is applicable to nearly the whole of England, and I think it is quite a mistake, as the Hull and Grimsby men have said, that the fish is at a standstill. I think the aggregate catches are the same as they were twenty years ago.

1401. How do you reconcile that with the Board of Trade returns?—I think the Board of Trade returns are notoriously misleading.

1402. Will you give us your opinion as to why they are misleading?—Yes, I think in the early years that these statistics were gathered, the amounts said to be landed were grossly exaggerated, and this last twelve months it has been brought down to nearer about the right amount, and that has accounted for the decline in the fisheries at some of the different places. Now, I will take Plymouth, my own place, which I know myself about. There was a retired skipper of a smack appointed there to take these statistics, and to give an account of the quantities and values of fish landed. He was appointed in 1885 at a salary, about one-third enough to live on. In 1886 a new government came in, and reduced his salary by one-half, so that he asked to be allowed to do other things for a livelihood. He goes on the quay, perhaps once or twice a week, and asks how many vessels have been in and the probable amount of their catches. This is sent away as the accurate returns of the fish landed at Plymouth. Now, comparing the amount said to be landed with the amount sent by rail to other markets, I find according to the returns, that in Plymouth in 1889 there were 8,243 tons said to be landed—the amount sent by rail should be equal to that. Of course there is a large local consumption, but when you add the weight of shell-fish that is not included in that, the weight of fish sent into Plymouth by train from other places, and not entered as landed, and the weight of the packages, I say it should be equal to the amount sold locally. Well, in that year there were only 4,799 tons sent by rail. In 1892, after this had been exposed, the amount of fish landed in Plymouth was said to be 300 tons less than the amount sent by rail. So that whichever way you look at it, if one proportion is right the other must be grossly wrong. In one case the amount sent by rail was only half the amount said to be landed, and in the other case the amount sent by rail exceeded the amount landed. Brixham is about the same. In 1890, 4,781 tons were said to be landed, and only 2,166 tons were sent by rail. In 1892, the amount said to be landed had been reduced by 2,000 tons or very nearly 2,000 tons, but the amount sent by rail has been increased by 400 tons.

Mr. Mallock.

1403. Do you know that the Market Commissioners reports at Brixham bear out your statement as to the discrepancy?—I have not heard that. Now, taking Grimsby, the very place

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Mr. Mallock—continued.

place we have heard so much about, in 1886 the amount said to be landed there was 68,180 tons. The amount said to be landed in 1892 was 68,880 tons, practically the same, and that is what the witnesses seem to have based their remarks on, that the aggregate catches are the same. But the tonnage by rail has increased by 9,000 tons. In Hull the amount in 1886 was 20,040 tons; in 1892, 26,000 tons, so that there is only an increase of 6,000 tons, but the increase over the railway has been nearly 30,000 tons. Of course, there is a large amount of fish imported into Hull and sent over railway, but when we consider that the whole of the imported fish of the United Kingdom has only increased by 25 per cent., and this has increased by more than 100 per cent., I think we can see there is something wrong with the returns. Now, in Ramsgate, the amount sent over the railway exceeds the amount landed by 25 per cent. I do not know where it is obtained from. In England and Wales the increase over the railway during those years is 59,000 tons; for the whole of the United Kingdom the increase is 66,450 tons. That is why I think the fish is rather improving than declining.

Mr. Kearley.

1404. As regards Plymouth and your personal knowledge of the method adapted there to get the returns, you have no hesitation in telling the Committee that they are unreliable, have you?—I am sure of it.

1405. And from your experience of other parts of the country can you say the same thing?—Yes, in Great Yarmouth for instance, it is impossible without some system of registration to get at the amount that is landed. Perhaps one-third the amount of flat fish, or not that, is landed. Not more than one-fifth is landed in the market and sold, the rest is sent away by the owners of the vessels to London, and no one knows what is sent. There the same discrepancy arises. In the earlier years the amounts landed are greatly exaggerated, and last year there was more sent by rail than was landed in the place.

1406. Then you do not think it fair, as I understand, for these deductions to be made, or to be based upon figures?—I do not think so until you have a better system of collecting statistics of that kind.

1407. Can you make any suggestion with regard to a better system of collecting statistics?—I think the only plan would be to make the fish buyers in every district register the amount of fish they bought. For instance, the turbot and soles, and all the prime fish in Plymouth is put on the quay in one lot. If this man who collects the statistics attended the sales, he could not say how many pounds of soles or cwt. of soles were sold, and at what price per cwt. Soles, turbot, brill, dorys, every other kind of prime fish, is sold in one lump; so many pair of soles, so many turbot, brills and other fish, so that it is impossible to dissect, as is done here, how many cwts. of soles or other fish there are in those lots, or how many cwts. of brill, and at what they were sold; in fact they were all sold together.

Mr. Harry Foster.

1408. I suppose the quantity sent by rail is got from the railway companies?—Yes, there can be no mistake about those figures.

1409. So that you say the railway companies' figures discredit the Board of Trade figures?—Yes.

Mr. Kearley.

1410. And do you contend that on the whole the increase spreads over the whole of England and Wales?—Yes. I must say I do not think the increase in Hull and Grimsby is proportionate with the amount of catching power; at the same time the aggregate catches are not the same as they were 10 years ago.

1411. Do you agree that there is a great quantity of immature fish being caught in the North Sea?—I cannot doubt that; I know it is the fact that there is a vast quantity caught.

1412. And that of the amount of fish landed, whether it be an increased or diminished quantity, a very large percentage is practically worthless and unsaleable?—That is so.

1413. But that is not the case in the West of England, is it?—It is not.

1414. The catch of fish there is increasing, the quality of the catch is as satisfactory as one could wish?—Yes, turbot and sole have been as large this year as any year I have known, that is to say, the size of the fish itself. As I have before explained, the water is deep, and the undersized fish get into very shallow waters, almost into the breakers, where trawlers do not trawl, so that it is impossible for our vessels to catch a quantity of undersized fish.

1415. Such being your opinion, do you think that there is any national demand for this suggested legislation?—I do not, especially on the lines that have been proposed by Hull and Grimsby, the 10-inch sole, and all the other flat fish 12-inch., in fact I am confident that such a measure will never pass the House of Commons.

Mr. Harry Foster.

1416. Do you think the shrimper does any harm at all to the small sized fish?—No, not if properly regulated. We have passed a bye-law in our Committee prohibiting the shrimper from working. Then he protested, and we allowed the shrimper to work, but with this proviso, that he takes his trawl up every half-hour and cleans it. If a shrimper takes his trawl up and turns it out every half-hour and throws the small fish away they live.

Mr. Kearley.

1417. This is not merely a local opinion of yours, but you have an experience extending from Plymouth for a considerable distance up the east coast, I believe?—Yes, I attended a meeting last Wednesday at Lowestoft. All the smack owners were there, and to a man they are against this legislation as unnecessary, and Ramsgate is very strong against it; I hope you will call witnesses from those places, especially fishermen. Although I have been practically fishing in my younger days, for several years I have not been fishing, and I think it would be very valuable if you called men actually at work now to give evidence on the matter.

1418. Supposing

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Mr. Kearley—continued.

1418. Supposing this legislation were enacted and it became illegal to land immature fish, the result would be, that considerable quantities of dead fish would be cast back into the sea, is not that so?—That is so.

1419. What would be the effect of that on the fisheries?—It is generally considered amongst fishermen that if any quantities of fish are so thrown overboard, it will do the ground where the fish are so thrown injury. Of course, fish do eat each other, that is an undoubted fact as to several kinds, and if fish are thrown over in any quantities, it would do the ground an injury. It is a well known fact where a drift boat (I am overseer of drift boats as well as of trawlers) loses its nets with the fish in it through the weight of fish breaking the rope and nets; no herrings can be caught for some considerable distance round that spot where those fish have been lost.

1420. Fish avoid these cemeteries, as it were?—Yes.

1421. Have you no large fleet of steam trawlers in the west?—We have no steam trawlers.

1422. And consequently from the absence of these trawlers your fishing grounds remain in perfect condition?—That is so.

1423. Since how many years, have the fisheries in the neighbourhood of Plymouth and that area been fished, on a large scale?—Plymouth and Brixham for a very long time, Brixham especially. Brixham is the birthplace of trawling, and trawling was conducted from those places as far back as 150 years, and they have been continuously fishing since that time.

1424. Without the grounds becoming impaired in any way?—Without becoming impaired in any way. Of course there have been bad seasons and good seasons, but there is no difference in the seasons now, or they are quite as good, taking one with the other, as they were 50 years ago.

1425. Do you attribute this depletion of fishing grounds by steam trawlers to the fact that the grounds have no rest at all?—That is so.

1426. Whereas with the sailing trawlers the exigencies of wind and tide insure the fishing grounds getting a rest?—That is so.

1427. Are these steam trawling fleets controlled by large capitalists?—Yes, they are undoubtedly.

1428. They are run as companies, as it were?—Yes, limited liability companies.

1429. And consequently the sole concern is to earn a dividend, I suppose?—Or the manager's salary.

1430. Of course the desire on the part of the sailing trawlers is to make the enterprise pay is it not?—Yes; but then, of course, as I explained, almost all sailing trawlers are owned singly, or men have perhaps one two or three vessels. They are not owned by companies the same as steamers are.

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Mr. Harry Foster.

1431. And they are mostly practical fishermen?—Yes, they are mostly practical fishermen, or fish buyers, or fish salesmen.

Mr. Kearley.

1432. Do you suggest that these steam trawlers that belong to companies, fish without having any regard to the evil consequences of their very anxiety to catch fish?—I think we have heard enough of that. The witness before me as good as said they had no conscience, they only cared for their livelihood of to-day.

1433. The large mesh you do not think would be a remedy, I understand?—I do not for flat fish.

1434. Supposing this Committee agreed to some restriction of size of fish, you, as representing the West, would have no objection, would you, to the Belgium sizes being adopted?—No. We consider that, as far as the inshore fishing is concerned, it would do good. On the other hand, it would lead to trouble in selecting fish. but at the same time we should not strenuously object to such legislation as that.

1435. You spoke about some international agreement as to limiting the areas of known breeding grounds, and places where young fish are known to resort; do you wish to prohibit steam trawlers going there?—Every kind of trawlers and every kind of fishing for flat fish.

1436. But is there not some method or some agreement now among these fishery committees whereby rivers, bays and shores are protected?—Unfortunately not with regard to rivers. The fresh water fishermen, the conservancy boards, have a large representation on the sea fishery committees, but the sea fishery district committees have no jurisdiction over their waters; they come in and control our fishing, but we are not allowed to control theirs.

1437. Why is that?—The Sea Fisheries Regulation Act of 1888. We have eight conservancy boards in Devonshire, and they send eight representatives. One-third of the fishery representatives are freshwater fishermen.

Mr. Mallock.

1438. Do they attend?—Yes, most of them do.

Mr. Kearley.

1439. What is your opinion as to where fish spawn, is it in deep water or shallow water?—Flat fish spawn in deep water, and then, as has been already explained, the young fish come into shallow waters where the waters are warm.

1440. And those only would be the places which would require protecting?—Yes.

1441. These sandy bays which they frequent?—Yes, just so.

1442. But there are places which small fish frequent away from the coast, are there not?—Yes, but that is in shallow water. The sun has more effect on shallow water than on deep water in the summer months when the fish are small.

1443. Then it would not be fair to say it would be only the sandy bays which would require protecting?—Oh no; wherever there are shallow waters the young fish would come.

1444. Is it a question simply of temperature or because

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Mr. Kearley—continued.

because they are feeding grounds?—I think mostly on account of the temperature.

1445. Temperature has a very great influence you think on the development of the fish?—Quite so.

1446. I believe that you are in favour of extending the territorial limits, are you not?—Yes.

1447. Of course that would be by international agreement?—That would have to be by international agreement. It would not have any effect on our coast because the waters are so deep, but on some coasts where the waters are shallow, outside the three-mile limit would be only shallow water, and in those places where there is shallow water outside the three miles I think it would be advisable to extend the area so that the local people or the English people could protect their own coasts to a greater extent.

1448. Outside any international agreement, do you think there is a great deal to be done by these sea fisheries district committees provided they are properly constituted?—Yes, I think so.

1449. For the preservation of home fisheries at all events?—Undoubtedly.

1450. And you take exception to them for the

Mr. Kearley—continued.

moment because they are not representative bodies?—They are not representative. A large number of their body are composed of county-men who know nothing about fishing.

1451. Has that ever been suggested by you at any of the conferences?—Yes.

1452. Did it receive much support?—Yes.

Chairman.

1453. Your trawlers on the south coast do catch a certain amount of immature fish, I suppose?—Yes.

1454. Is any of that so small as to be practically unsaleable?—A little, but a very little.

1455. May I take it that, supposing the size proposed is reduced, that is to say, 10 inches for plaice and 8 inches for soles, you would not have any great objection to it?—We should not have any great objection to the Belgian scale, which is 7½ inches for all flat fish, except turbot and brill. I should not agree to it for plaice.

1456. But say 8 inches for soles and plaice; you would not object to that?—We should not seriously object to that, but anything over that we should.

Mr. W. J. SAUNDERS, called in; and Examined.

Mr. Mallock.

1457. You are a fish salesman, are you not?—Fish salesman and smack owner at Brixham.

1458. And I believe you are Chairman of the Smackowners' Association?—Yes.

1459. That is the association which represents the trawling interests at Brixham, is it not?—That is so.

1460. So we may assume that you represent the feelings of the Brixham trawlers?—Yes; I am sent by them, or at their request I come here.

1461. You have been a trawler yourself, have you not, for some years?—I was trawling for 20 years.

1462. How long have you ceased?—I have been ashore about 10 years.

1463. You have been accustomed to the sea and fishing all your life, have you not?—Yes.

1464. And as far as I know your father before you?—Yes.

1465. Where have you trawled mostly on the south and west coasts?—Mostly from the Eddystone to Portland.

1466. Have you had any experience elsewhere?—Yes, I have trawled more or less from the Land's End to Heligoland.

1467. As a fish salesman your interest is not confined to trawlers?—No. I sell seine fish as well.

1468. When have you been in the North Sea chiefly?—In the spring of the year; the spring and the summer months.

1469. What is your opinion with regard to the supply of fish now on the south coast?—I should say we have lost a deal of hake and we have lost mullet; that is, they do not come in the quantities they did, but we have both. As to all other kinds there is no falling-off whatever.

Mr. Mallock—continued.

1470. How do you account for the falling off in hake and mullet?—Because we do not get as many pilchards, which is their food, and I take that to be the reason, but I could not give any particular account for the mullet falling off.

1471. Can you account for the pilchards falling off?—No, not at all; they go in shoals, and I cannot account for their not coming in so great numbers as they used to do.

1472. Brixham, of course, is, as Mr. Little has told us, one of the oldest fishing ports?—I believe we are the oldest trawling port in the kingdom.

1473. Older than Grimsby and these other places we have heard of, is it not?—Yes; they are only mushrooms compared to Brixham.

1474. Then you do not think that in the western ground there has been any falling-off, do you?—None whatever.

1475. Have you any steam trawlers in the west?—None.

1476. Do you take the same view as Mr. Little, with regard to steam trawling?—I think that fish cannot, by any possibility, stand against steam trawling in clear grounds.

1477. What is your reason?—The continuous work of a steamer, and not only the continuous work, but the faster going. Then, in order to keep the gear on the bottom, it has to be heavily weighted, so that what it does not catch it kills. I take it to be far more destructive. More than that, a steamer trawler has many advantages over a sailing trawler, in this way: in the Bristol Channel there are many plots of rough ground, what the fishermen themselves would call the tetty grounds. The steam trawlers have often found where these grounds lie; they buoy off

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Mr. SAUNDERS.

[Continued.]

Mr. Mullock—continued.

off and keep going round and round them in a way that a sailing trawler could not possibly do, and so by doing that they have disturbed the breeding grounds.

1478. And you account for the damage which you think steam trawlers have done in this way, in addition to the actual amount of fish they catch?—Yes.

1479. Besides the fact that one witness told us that a steam trawler would catch three times as much as a smack?—Yes.

1480. Do the Brixham trawlers go to the east of the Start Point?—Yes. Our home ground would be 20 miles to the eastward of the Start Point.

1481. What do you catch there?—Principally whiting, dabs, and plaice. There are soles and rays and gurnets caught there, but plaice, whiting, and dabs are the principal fish caught there, and they are caught there in very large numbers.

1482. How long ago were you fishing in the North Sea?—About ten years since.

1483. Do you know anything about the North Sea fishing now?—The only thing I know about it is that it has become so unremunerative during the last four or five years that we cannot send a vessel there in the spring of the year.

1484. And now, practically, none of the trawlers from Brixham go, do they?—No, not in the spring of the year. We have had as many as 80 vessels go away year by year to the North Sea, and never failed, but they have given it up altogether for the last four or five years. Where I have caught five or six trunks of soles in a night myself many a time we could not get that number of pairs latterly.

1485. Do they go to the North Sea at any other time?—This winter they went just before Christmas, and came back a month afterwards. They were there for a matter of a couple of months, December and January.

1486. Have the number of trawlers at Brixham increased of late years?—Very considerably.

1487. They would have increased more had it not been for local circumstances, I believe?—Only for want of harbour accommodation; that retards the growth of a much greater fleet than we have, but still we have a large number of vessels there now.

1488. I want to know what you think about a close season; do you think a close season would be of any advantage?—I think a close season, say from March to October, would be very beneficial, if all ground nets were kept off, but if you are simply to keep off trawls I do not think it would be of any service whatever.

1489. Of course you are speaking for the west coast now, are you not?—Yes.

1490. You think that a close season for trawling only would be of no use whatever?—I do not see of what use it can be, for the ground seine that hauls on the beach kills all the small fish there; that is the most destructive engine we have got our way.

1491. With regard to the size of the fish, do you think that legislation is advisable or not, or do you think it would be beneficial?—I think it would be a very serious thing, because an eighth

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Mr. Mallock—continued.

of an inch over or an eighth of an inch under brings a man under the lash of the law or not, as the case may be. It is impossible to tell on the deck when a fish is half-an-inch under size. I think a close season would be far better if the trawlers were kept away, and the breeding grounds undisturbed. I think in deep waters you would kill less small fish, and the act of throwing them away would serve no good purpose.

1492. At present do you land much fish that is unsaleable?—We land none that is unsaleable.

1493. So that, practically, there would be a great waste of food if all the fish below a certain limit were thrown overboard, would there not?—Of what we catch in deep water a very small percentage is thrown away. It is only in the bays where we get anything of that sort, and then only in the summer months.

1494. If some limitation was inevitable, what should you be inclined to put it at; that is to say, if you had to submit to legislation?—I should say eight inches.

1495. For plaice and soles?—Yes; but I find there is a very great deal of difference as to that. I have attended a conference where our Grimsby and Hull friends have been, and, although they have been anxious to fix the size of the plaice on a large scale, they would not be willing to go so high for a turbot as we do. Then, as to lemon soles, we do not catch them as large as they do, and there is that difference in different districts.

1496. Do you consider that soles caught in Torbay and along there are better than soles of the same size caught on the east coast?—I certainly think so.

1497. I asked Mr. Little the question, and I thought I remembered his being present at the Sea Fisheries Conference a little while ago; were you there?—I have seen them produced there on different occasions.

1498. Do you remember if it was not generally admitted that small soles from the western coasts were much more valuable than soles of the same size from the east coast?—That theory has always been accepted when I have heard the question asked.

1499. Therefore, do you think that if there is any hardship in limiting the sale, it would press much more seriously on the fishermen on the south coast than it would on other coasts?—I think so, yes.

1500. With regard to the lemon soles and plaice, are there as many of them now on the south coast as there were formerly, do you think?—I should say we catch 50 to 1 to what we did three years ago. That is, lemon soles principally; but we have had a similar increase in plaice.

1501. With regard to the small flat fish, do mackerel interfere with them in any way?—No; do you mean does the catching of mackerel interfere with them?

1502. Yes?—It need not necessarily interfere. Mackerel seining goes on to a very large extent in Torbay and round the southern shores, but if they work as they should work, and tuck their seines in two fathoms of water, everything but the

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Mr. SAUNDERS.

[Continued.]

Mr. Mallock—continued.

the mackerel could be let go, even if it is in the seine.

1503. You think there may be no damage done to the mackerel and even the sprats, do you?—No.

1504. With regard to what Mr. Little was asked, about the Board of Trade Return, do you remember a comparison being made at Brixham between these returns of the Market Commissioners' Returns?—Yes.

1505. And the Board of Trade Return, I think, exceeded that of the Market Commissioners?—They exceeded it in value by many thousands of tons.

1506. That is to say, that the Board of Trade estimate was that many thousands of tons of fish more were sent away from Brixham than the Market Commissioners admitted?—Yes, and many thousand pounds more in value too.

1507. And the Market Commissioners can tell absolutely what is landed, can they not?—As salesmen we are bound to make a statement to them. We are licensed by them, and bound to make a statement to them of all we sell.

1508. And they have much better means of obtaining information than the Board of Trade have, have they not?—I say the Board of Trade have no means of getting an accurate return. The Board of Trade returns in Brixham are simply guess work.

1509. Do you think if there was a limitation of areas the definition of areas and their management could be dealt with by the Sea Fisheries Committees?—Not as at present composed. I think the larger interests are very badly represented on the Devon Sea Fisheries Committee.

1510. Has there been a decrease of fish, as far as you know, in the Bristol Channel on the Irish coast?—We have not known the Bristol Channel but a few years; of course it is quite a new thing, but it is not what it was. This year has been a fairly good year, but it was a very short season.

1511. Do you agree with the other witnesses that if fish were once caught and put back into the sea they would not, or a very small proportion of them would not, live?—In the western grounds, which are principally our grounds, there is deep water and there is any amount of bottom soil coming up with the fish, which must necessarily kill the smaller fish if not the larger, but as a rule the bulk of it is dead, and being all mixed up with the soil there would be very little that could be put back alive.

1512. And you think that in your fishing ground you cannot fish without catching a large amount of what has been described as under-

Mr. Mallock—continued.

sized fish, do you?—No, we do not catch a large amount.

1513. But you cannot avoid catching it to an extent, can you?—No, it is impossible. Mr. Little is quite right in what he said about a flat fish, because a dab and a plaice carry a bone at the navel which prevents them coming through the mesh; I have seen their heads through by the score, but they could not get through, whereas a whiting or a mullet would dart straight through.

1514. So that all that is caught would be absolutely wasted if it could not be landed?—Yes, it must be.

Chairman.

1515. You would not object, I understand, to the size of 10 inches for brill and turbot, and eight inches for soles and plaice, would you?—No, I do not think we should.

1516. I mean if the standard was reduced to that limit you would fall in with the wishes of the Hull and Grimsby men?—I think we should accept those sizes.

1517. Without injuring your own trade?—Yes, I think so; but I think it must cause a lot of friction if you are going to seize fish because it is half-an-inch under size, or something of that sort. Where a fisherman has a catch and it lies on his deck the same as it does with us, he throws them into a box; he cannot stay to measure them.

1518. It is impossible to separate one from the other you think?—It is not impossible to separate them; but it is impossible for a man to tell by his eye the fish that is over and the fish that is under, and when it is bad weather, and he has to get his canvas in, and look after the navigation of the vessel, he cannot do everything, and perhaps the end of it is he finds himself fined because he has something he ought not to have in his box.

Mr. Harry Foster.

1519. Do you suggest that as a practical difficulty?—I have said so all the way through.

Chairman.

1520. Is there any other point you would like to refer to?—No.

1521. You are at any rate of opinion that, so far as the west and south coasts of England are concerned, the fisheries have not fallen off?—Decidedly.

1522. And that, therefore, there is no reason for legislation in order to maintain them in their satisfactory condition?—That is quite so.

Thursday, 11th May 1893.

MEMBERS PRESENT:

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton Jodrell.
Mr. Harry Foster.
Mr. Furness.
Lord George Hamilton.
Mr. Heneage.

Major Jones.
Mr. Kearley.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Robert Price.
Mr. Renshaw.
Dr. Tanner.

MR. HENEAGE, IN THE CHAIR.

MR. JOHN WHITFIELD HAME, called in; and Examined.

Mr. Harry Foster.

Mr. Harry Foster—continued.

1523. ARE you a smack owner at Lowestoft?
—Yes.

1524. I think you are also a member of the National Sea Fisheries Protection Association?
—Yes.

1525. For how long have you been a member?
—For seven years.

1526. Have you long been connected with the trawl fishing trade?—All my life.

1527. Always at Lowestoft?—Fifteen years at Lowestoft, and prior to that at Hull.

1528. Then I suppose you can tell us something as to the rise of the trawl industry in Lowestoft?—Yes; shall I give you a short history of it.

1529. Yes?—The real rise of the trawl industry at Lowestoft commenced about the year 1860. At that period there would be about a dozen to 20 vessels, with a tonnage averaging from 25 to 30 tons. At that time ice was scarcely introduced into the fishing industry, and the vessels worked more at home on what is known as the Lowestoft Flats, where they caught a large quantity of soles. Shortly after 1860 some of the men who had migrated from Brixham to Ramsgate, commenced coming to Lowestoft with their fish, and eventually made Lowestoft their home, and this laid the foundation of the enormous trawling business now carried on at Lowestoft.

1530. I believe Lowestoft, so far as the importation of fish is concerned, is now the second fishing port in the kingdom, is it not?—Yes, if you include all kinds of fish. Ice about this time was introduced into the fishing trade; that is to say, vessels carried ice to sea for the purpose of preserving the fish, and were consequently able to go on longer voyages.

1531. You have given us the number of vessels in 1860, have you not?—Yes.

1532. Can you give us the number of vessels in 1870?—The vessels greatly increased in numbers and in tonnage also, so that in 1870 we find the number had increased to about 60, and the tonnage would be about 50 tons each. In 1880, we find that the vessels had increased to 120, and at 0.93.

the present time we have 325 vessels. The tonnage to this time has risen from 50 tons per vessel to 80, and the length of trawl beam from 30 feet to about 48 feet.

1533. I believe it is the fact, is it not, that they are going back now to the old size?—Yes; the general impression is that the larger vessels are not suitable to the port, and we are going back to the smaller vessels of 45 to 50 tons, and are adding a great number of vessels to the fleet.

1534. A great many have been built recently, have there not?—Yes.

1535. Are there any steam trawlers that go out of Lowestoft?—No, not at present. We had a company started about three years ago, but they came to grief, and lost about 10,000*l.* capital in three years.

1536. Is it a fact that a very large proportion of the population of Lowestoft are interested in this trade?—I thought about a third, but I find, on making inquiries, fully a half depend on the fishing trade.

1537. The population is about 26,000, is it not?—Yes.

1538. As to the grounds upon which the Lowestoft trawlers work, can you tell us anything about that?—The grounds upon which our vessels work may be roughly defined as lying between the parallels of 51°30' and 53°30'. The whole of that ground is more or less worked by the vessels from Lowestoft.

1539. Do they fish in those grounds round about Heligoland?—No. I have known an isolated case or two, but it is a very rare occurrence when our vessels go there.

1540. Do the Lowestoft boats work in fleets, or do they work independently?—As a rule, the Lowestoft vessels work on what is known as the single boat system; that is, each vessel goes out for its own independent catch, but in the summer months, perhaps for a couple of months, we do form ourselves into small fleets.

1541. That is the contrast between your mode of

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Mr. HAME.

[Continued.]

Mr. Harry Foster—continued.

of fishing and that of Hull and Grimsby, is it not?—Yes.

1542. As to the time that your trawls are down, we have been told by the other witnesses that the average may be taken as six hours, the length of the tide?—I should think our average would be about that.

1543. Can you tell us anything as to the rate of speed?—We should maintain a speed of about two miles an hour to do effective fishing.

1544. As to the question of the sizes of the fish that are caught, of course you are aware of the discussions that have taken place at the National Sea Fisheries annual conferences, are you not?—Yes.

1545. Have you taken any part in those discussions yourself?—Yes, several times.

1546. Have you supported the resolutions that have been passed by those conferences in favour of limiting the size of flat fish, and asking for legislation on the subject?—I have not.

1547. Can you tell us whether that proposition meets with any support at all in the Lowestoft trade?—The trade is unanimously opposed to it at Lowestoft. During one of the conferences held at the Fishmongers Hall, I made it my business to go to Billingsgate and inspect some of the boxes of fish being landed by the Hull and Grimsby fleet, and during my whole experience at Lowestoft, I have never seen anything approaching it in size landed in our market.

1548. In what way; do you mean you have never seen anything so small?—No.

1549. You mean in the Lowestoft market?—Yes.

1550. What is the smallest size of fish which you see in the Lowestoft market, taking soles and plaice, for instance?—I should say the very smallest that are sold in the market would be soles eight inches. There may be an odd pair or two below that, but nothing worth considering.

1551. Do you mean by that, that if soles under eight inches were brought into the market, they would be unsaleable?—We never see such things; they are never brought in in sufficient quantities to make a sale of them.

1552. Are you aware of the Belgian law which exists at the present moment?—I have heard of the Belgian size; I did not know it was a law.

1553. Yes, it is a law. Do you know the size for soles and plaice is 7·2 inches?—Yes.

1554. Supposing it was found practicable to apply that law here, that would not on your evidence interfere with the trade of Lowestoft?—As a port I do not think it would inflict any injury on the port, although we are unanimously of opinion that it is impracticable to carry it out.

1555. Why is it impracticable?—Because it bristles with difficulties.

1556. Will you suggest what some of the difficulties are which occur to your mind?—The supervision of the sizes we think would be most harassing to the business.

1557. You mean by that, if there were a law limiting the size to 8 inches, and if a man were to have a fish amongst his catch, or were to

Mr. Harry Foster—continued.

import a fish under that size, he would be liable to harassing proceedings if the law were enforced?—Yes. The fishing has to be done in a hurried manner; the vessels come in, and expedition is the very essence of the trade, and any check on that would be disastrous, I should say.

1558. With reference to the plaice which are caught, what do you say?—Since this inquiry was mooted, I have been taking special notice as to the sizes of our plaice that are landed in Lowestoft Market, and have taken the trouble to measure several specimens that have been landed, I find that we never get, or only on rare occasions get, anything below 8 inches; and it is so seldom we get anything below 8 inches that it is not worth mentioning.

1559. Whereabouts do you catch your plaice mostly?—We get them more or less all over our grounds.

1560. Do you fish at all around the Mask Lightship?—Yes; there is one special piece of ground there where they have fished for 30 years, and always caught the same class of fish: a small-sized plaice, ranging from 10 to 12 inches.

1561. When you say "always," do you mean whatever season of the year they happen to fish there?—Old fishermen tell me if they have been fishing there in January, they have caught the same sized fish as they have in December of the same year. In fact, it is believed by them to be a species which never grows any bigger, but whether that is so or not, I have not sufficient scientific knowledge to prove.

1562. Can you tell us anything as to the average catches of fish at Lowestoft from your experience, and as to whether the average catch has fallen off, or has been increased, or has been maintained?—I have been making careful inquiries during the last few weeks, and to make perfectly sure I have applied to the general manager on the Great Eastern Railway Company, who has supplied me with tables showing the weights of the various kinds of fish that have been landed in our market. I may say that Lowestoft stands in a somewhat unique position as to these statistics, perhaps more so than most towns in the United Kingdom. For every box of fish we have to pay a toll of 1d. to the Great Eastern Railway Company, and when I tell you that with the fleet of 20 vessels I have been looking after, our charges and the Great Eastern charges do not vary more than 6d. in a year, that must be a good record, I should think.

1563. That is important because we have had evidence as to the great variation between the Railway Company and the Board of Trade returns?—I have worked out these tables from the Great Eastern Railway Company, which I will hand in, and I find that they agree with my own books as near as could be expected.

1564. One of those tables shows, does it not, that there is considerable increase in the style of fish which go under the description of offal, which is the coarser fish?—Yes.

1565. And there is a slight decrease in prime?—Yes; I find that table is a little misleading on going carefully into it, because we have a large number of vessels coming into Lowestoft which

make

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Mr. HAME.

[Continued.]

Mr. Harry Foster—continued.

make only two or three trips a year. French vessels come there, and Ramsgate vessels come in there.

1566. In what way do you say the table is misleading?—It is a little misleading as to the actual facts, because our own vessels' average would come out at rather more than the figures show. The reason is, that we have several vessels coming to Lowestoft, only making perhaps two or three trips a year, which brings down the average of the other vessels.

1567. You do not mean that the figures are inaccurate?—No, the figures are perfectly accurate.

1568. In order that it may be put in, it is necessary you should read it; so perhaps you will do so. Will you give us in your own way from that table, if you have verified it, what you wish to say?—I applied to the General Manager of the Great Eastern Railway Company for the returns of fish landed in Lowestoft market for the last 10 years.

1569. Having got that return, what then?—Having got these returns I referred to my own books, and I find that they come out as accurately as you could expect them to come out. Within a very few cwts. they come out the same as my own books show, so that it seems to be a very accurate record. I have made enquiries of other owners in the town, and their books also agree with it, so I think that is indisputable evidence that it is correct.

Mr. Kearley.

1570. The railway company have every reason, I suppose, to make a correct return, have they not?—Yes.

Mr. Harry Foster.

1571. Give us the figures, if you please?—I find in 1883 we landed 227 score of cod, 18,056 of prime and 59,393 of offal. In 1884 we landed 2,010 score of cod, 18,613 of prime and 59,640 of offal. In 1885 the figures were 225 scores of cod, 24,228 of prime and 77,948 of offal. In 1886 we landed 372 score of cod, 28,208 of prime and 90,482 of offal. In 1887, 101 score of cod, 24,341 of prime and 87,710 of offal. In 1888, 53 score of cod, 23,022 of prime and 117,552 of offal. In 1889, 169 score of cod, 24,844 of prime and 128,156 of offal. In 1890, 151 score of cod, 25,647 of prime and 136,810 of offal. In 1891, 32 score of cod, 34,701 of prime and 189,770 of offal. In 1892, 338 score of cod, 32,013 of prime and 210,504 of offal. I have compared that table with the number of vessels that have sailed out of Lowestoft for the various years, and the result of that is this: In 1883 I find, according to the Great Eastern Railway Company's books, that there were 157 vessels regularly hailing from Lowestoft, averaging 128 cwts. of prime and 380 cwts. of offal. In 1884, 167 vessels, averaging 111 cwts. of prime and 355 cwts. of offal. In 1885, 173 vessels, averaging 140 cwts. of prime and 450 cwts. of offal. In 1886, 168 vessels, averaging 160 cwts. of prime and 538 cwts. of offal. In 1887, 190 vessels, averaging 128 cwts. of prime and 461 cwts. of offal. In 1888, 230 vessels, averaging 100 cwts. of prime and 510 cwts. of offal. In 1889, 235 vessels, averaging 105 cwts. of prime and 546 cwts. of offal. In 1890, 260 0.93.

Mr. Harry Foster—continued.

vessels, averaging 99 cwts. of prime and 527 cwts. of offal. In 1891, 265 vessels, averaging 131 cwts. of prime and 717 cwts. of offal. In 1892, 360 vessels, averaging 100 cwts. of prime and 684 cwts. of offal.

1572. That is a large increase then in the offal?—Yes, that shows a very large increase.

1573. That is as to the quantity per boat. Can you tell us anything as to the average size of the fish, has it deteriorated in your experience during the last 20 years?—I have made every inquiry among all fishermen who belong to Lowestoft. I have taken the precaution of measuring myself, and from my own personal observation I should think the sizes have not varied anything noticeable.

Chairman.

1574. How do you account for the great increase in the offal fish and the great decrease in the prime fish?—That is a question which it is almost impossible for us to answer. It seems to me the fish vary like the seasons. In hot seasons we get a large supply and in cold seasons we get a much smaller supply. The present hot weather we have had has made a great effect on the supply.

Mr. Harry Foster.

1575. And the calm weather acts as a close season practically on your trawlers, does it not?—Yes.

1576. You must have a certain amount of wind in order to fish?—Yes.

1577. Within the last few days have you gone through the market with a view of testing the size of the fish?—Yes.

1578. Tell the Committee what you did?—Yesterday I turned out two boxes of plaice landed from Lowestoft vessels. I found one box contained 110 plaice and the other one 90 fish. The smallest fish I found in the box containing the 110 measured 12 inches, and the smallest in the one containing 90 was 13 inches.

1579. Was that a fair average?—Yes, I took a box at random.

1580. Do you know what ground these fish were brought from?—The vessels would be fishing well over on to the Dutch coast I should think, perhaps from 30 to 40 miles from the Dutch coast.

1581. Can you tell us anything now as to price and as to how that compares with the last 10 or 20 years?—I find that the average price of soles for the last 10 years, say, at Lowestoft, according to our books, come out: soles 6*l.* per cwt., plaice 15*s.* to 16*s.*, and haddock I find come out at rather less than I originally worked it out; it comes out to about 7*s.* to 8*s.*

1582. How does that compare with prices 10 years ago, we will say?—It is higher.

1583. The Chairman asked you to what you attribute the falling off in the prime?—I think the enormous catching power that has been put into the North Sea has had a great deal to do with that.

1584. Have you anything to say with reference to the methods of steam trawling?—It is the general opinion of the fishermen at Lowestoft and those interested in the trade, that the steam trawler

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Mr. HAMB.

[Continued.]

Mr. Harry Foster—continued.

trawler has done a lot of injury in that way, and that they practically give the ground no rest whatever. They have a trawl on both sides of the vessel, where a sailing vessel has only one trawl, and as soon as one trawl is up the other is put down, and no matter whether there is wind or not, the steam trawler can work. Another thing is, the sailing trawler has to work back over his ground again. He must work back to his ground again in order to be ready for the next tide, whereas with a steamer there is no time lost, from the day they leave the harbour to the time they are back again, the trawl is continually at work.

1585. You know there has been a suggestion made as to preventing the capture of immature or undersized fish; do you think it would be practicable by any means to prevent that?—As we find that immature fish more or less are caught all over the North Sea, it seems to be almost impossible to prevent the capture of immature fish.

1586. Would any alteration in the mesh of the net be of any advantage?—I think it would be useless attempting such a thing.

1587. Why?—Because the draught of the vessel through the water, any practical fisherman knows, draws the meshes together, and it does not matter how small the fish is, it gets trapped, until the vessel begins to heave the net up, by which time the fish has been killed, and is useless.

Chairman.

1588. May we take it you are against any such restriction whatever, and are not prepared to consider any?—We wish to be left alone in the matter.

1589. And you are against any restriction of any sort?—Yes.

1590. Have you read the evidence of any of the previous witnesses?—I have seen some reports in the papers.

1591. And I understand you are against any restriction of any sort?—Yes.

Mr. Harry Foster.

1592. You cannot, of course, know what proposals may be in any man's mind?—No.

1593. And, therefore, you cannot say you would be against them, unless you knew what they were. I suppose you mean by that, that at present you have not heard of any practicable suggestion?—Yes.

Major Jones.

1594. You told us that there were immature fish all over the North Sea?—Yes.

1595. Do you mean at all seasons of the year?—Yes. When I call them immature, I should say undersized fish, comparing them with the Belgian size.

Mr. Harry Foster.

1596. Do you know, as a matter of fact, that a very large quantity of immature fish is being destroyed annually in the North Sea?—I do.

1597. Do you believe that the North Sea is being over-fished?—I do.

Mr. Harry Foster—continued.

1598. What do you suggest as a remedy for an admitted evil?—If I may give my own idea on the question, and I have thought the matter well over, I think the remedy would be to stop the importation of immense capital into the trade, which has practically swamped it.

Dr. Clark.

1599. Do you mean in steam or sailing vessels?—It has been done in both directions. I think that any trade, and that has always been my idea, will bear the profits from that trade being reinvested in it, but if you sweep in hundreds of thousands of pounds, as has been done, it will not only swamp the fishing industry, but any industry of a like nature.

Chairman.

1600. You mean, do you, that you wish the capital in the trade should only be the capital of the people, and that it should not be swamped by large capitalists?—I will not be so mean as that.

1601. You mean strange capital?—What I mean is this: That the fishing industry seems to be a working man's business; it has sprung from poor men who have had to work their way up from a very poor class of people, and we find those are the people who can make it prosper. Big capitalists have brought money into the business, and worked it on very different lines, with results that have been most disastrous. The Baroness Burdett-Coutts is a case in point.

1602. Of the number of your trawl boats how many are owned by practical fishermen?—Ninety per cent., and I attribute the prosperity of Lowestoft to that alone.

1603. Do you think, then, that any legislation would be possible to prevent capital going into the trade?—No, I do not know that how could be done.

Mr. Harry Foster.

1604. Then do you mean this—that the thing will right itself by the ordinary laws of supply and demand?—I do.

1605. And when it is found that capital cannot be profitably employed, that capital will be withdrawn?—Yes.

1606. And that in time the thing will adjust itself?—Yes.

1607. In other words, whenever competition makes it, as it is making it, unprofitable, then the competition will become less keen?—Yes, and the steamer will be the first sufferer, because it is the most expensive, and costs more to keep up.

1608. Have you anything to say with reference to any international arrangement?—If there is any arrangement come to with reference to the fisheries in the North Sea it will be worthless unless it is international. We are so bound up in one another's interests in the North Sea, that it would be absolutely useless unless it was of an international character.

1609. Is there anything else you would like to add?—No, I do not know that I have anything else to add.

Lord George Hamilton.

1610. You put in a table of figures, did you not?—Yes.

1611. What

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Mr. HAME.

Continued.

Lord George Hamilton—continued.

1611. What did you think that table showed, I could not quite follow you?—Are you referring to the table I received from the manager of the Great Eastern Railway Company.

1612. Yes?—I believe that table showed an accurate record of all the trawl fish landed in Lowestoft market for the 10 years I quoted.

1613. From that table what conclusions do you wish the Committee to draw?—The conclusion I wish you to draw from that table is this: that our offal has not fallen off at all, but has shown a marked increase, and the prime has fallen off but very little.

1614. On which do you make the largest profit?—The prime.

1615. Does not the table show rather the reverse of what you want to prove, does it not show the larger the number of boats employed the less has been the profit?—I am of the contrary opinion. It is a singular thing there has been more money made in Lowestoft during the last 10 years, and the vessels have been more prosperous than ever I have known them.

1616. That is, not that the individual owners of boats make more, but there are more boats engaged in the business?—No, the individual owners have made more money.

1617. But your figures, if I understood them right, went in the opposite direction?—Hardly so.

Mr. Kearley.

1618. The realisation is greater?—Yes, the actual weight of fish is larger than it was 10 years ago; the table shows that.

Lord George Hamilton.

1619. But the profit per boat you would say is more?—Yes.

1620. Is that due to increase of price?—Yes, increase of price and increase of quantity combined.

1621. Cannot you give any reason for the enormous increase in the proportion of the offal to the prime?—I cannot give any reason for it.

1622. Would it not be that the boats have further to go?—No, they do not go any further than we did 10 years ago. Of course we do go further than we did 30 years ago.

1623. It cannot be an exceptional season that caused that increase, because the increase, according to the figures, is continuous, is it not?—Yes, that is so. I cannot give any reason why it should be greater. Our vessels are perhaps a little more powerful, and we have larger beams which may account for a part of it. Our apparatus is larger.

1624. But those tables, to my mind, show rather that some alteration is necessary, because surely your object would be to try and sell the larger proportion of the fish that is caught as prime?—I do not exactly catch your question.

1625. You make a larger profit on prime, do you not?—Yes, but we should never expect to catch as much prime as offal.

1626. But you have diminished the proportion on which you make the larger profit and increased the other?—The reason why those tables show a slight falling off in prime is this, that we

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Lord George Hamilton—continued.

have several vessels coming to Lowestoft, and some of them only perhaps come two months in the year, which would bring the average of the real Lowestoft vessels down considerably. I can perhaps explain it in this way. In the year 1892 I think the figures I gave you showed an average of 110 cwt. of prime and 684 cwt. of offal. That is for the whole trade of the port; but I have got here the average for 38 vessels which one firm works at Lowestoft, and I find the average comes out 139 cwts. of prime and 710 cwts. of offal per vessel. Of course, the trade fluctuates, and that makes a difference.

Mr. Mallock.

1627. Some question were raised at the last sitting as to the accuracy of the Board of Trade Returns of fish caught. Do you know anything about the Board of Trade Returns?—I do not think they are accurate; they are not so reliable as those returns I have given.

1628. In what way do you find they differ?—The man who collects the returns at Lowestoft simply makes a general report which he gets from the market, but the returns that I have here are returns that the Great Eastern Railway Company have obtained from their officials who are there to count the number of boxes.

1629. In which way does the Board of Trade representation err in the general way?—He may come to me and say, "How many packages do you think have been landed to-day?" I look round and say, "I should think 300," but it may be 350.

1630. But you cannot say he errs in giving a larger number?—I could not say which way he errs.

1631. With regard to these steam trawlers do you consider that a great deal of damage is done to the fish in consequence of the weight of the trawl?—Certainly, without a doubt.

1632. Do you think it kills a great deal of fish that is not caught?—Yes, through working on grounds which the fish only go to for breeding purposes, and they are disturbed. I believe a sailing trawler could never go there.

1633. Then your objection to steam trawlers is that they not only actually catch more fish, but that they kill and damage more?—Yes; they give the ground no rest.

Commander Bethell.

1634. Do your fleets go to the Dogger Bank?—No.

1635. Not at all?—No.

1636. What is the latitude of the Dogger?—I should think 54° something.

Mr. Buchanan.

1637. Where do the Lowestoft men principally fish?—I could show you on the chart.

1638. Can you tell me roughly; is it in the same place as the Hull and Grimsby fishermen fish?—No, to the south of that.

Mr. Harry Foster.

1639. You gave us the latitudes, I think?—Between 51°30' and 53°30'.

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1640. Then

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Mr. HAME.

[Continued.]

Mr. Buchanan.

1640. Then, you do not go near the Dutch coast, do you?—Yes, we go across to the Dutch coast, but not the part of the Dutch coast where the Hull and Grimsby people work; they go on the north of the Dutch coast.

1641. And you do not go in the same quarter?—No.

1642. What proportion of the boats which you gave in the return are Lowestoft boats?—I see for 1892 I have given 360 vessels as bringing fish to Lowestoft, and I should say 300 of those would be *bond fide* Lowestoft boats.

1643. And, in fact, the whole of the Lowestoft boats are sailing trawlers, are they not?—Yes, every one of them.

Mr. Robert Price.

1644. I understood you to say that the steam trawlers not only gave the ground no rest, but they fished in places where the sailing trawlers could not go; is that so?—Yes.

1645. In the shallower water?—Yes; and covered ground. We have what we call narrow guts between banks, and a sailing vessel could scarcely get through, except under favourable circumstances, but a steamer could always go there.

1646. And go into shallower water, too, I understand?—Yes.

Mr. Kearley.

1647. You made some remarks about capitalists, did you not?—I did.

1648. And you apply those remarks more especially to owners of steam trawlers; is that so?—I should not confine my remarks especially to steam trawlers; it has been done as to sailing trawlers.

1649. Then why do you object to increased capital being put into this business?—In this way: the Baroness Burdett-Coutts put a very large amount of capital into it; and that huge fleet was worked, as everyone knows, not in accordance with the usual custom of the trade. The consequence was that in a very few years they came to grief. That enormous increase of vessels did a lot of injury, and Yarmouth is practically bankrupt to-day, I say, through those large fleets being brought there.

1650. You intend to convey, I take it, that where capital is embarked in a company, they fish irrespective of consequences, with the idea only of dividend-earning?—It appears to me that if when they start they have a dividend of 2½ per cent., and if they can bring in 5 per cent., so much the better, and the capitalist is satisfied. But that would not pay a fisherman.

1651. But when a man is working a boat on the ownership principle, is not he to some degree actuated by the same motive?—He could not keep alive on 5 per cent.

1652. But, with regard to money making, is not he actuated by the same motive?—Yes, certainly.

1653. So as to achieve the best possible result for himself?—Yes.

1654. But you think, do you, that his methods are more legitimate than those of companies?—The business is conducted more legitimately.

Mr. Kearley—continued.

1655. You must be imputing something if you impute that the capitalist is causing the damage; it must be by his action; it cannot be simply by the offer of his capital, but it must be by the way he instructs his fleet to work that he does the harm, must it not, and not because he puts money into it; would it be a fair understanding of your suggestion to say that the capitalists who embark in this fishing industry have a disregard of the conditions under which they fish?—No; I do not think it is in that way that it has affected the trade. I know this, when there are large companies being formed, careless habits are engendered in the men and in the management of their vessels, and the expense goes on frightfully. The men say, "The company has plenty of money; it does not matter." Yarmouth knows it very well, and Yarmouth people know I am saying what is true.

1656. But I cannot quite see how that is going to affect this evil we are inquiring into, without you impute something to those who own the capital; I cannot quite see how you are wishing to explain to the Committee that the importation of capital alone has brought about the injury, or been responsible for it in any way?—It has increased the catching power.

1657. Then is it your opinion that the increase of the catching power is responsible for the evil which we are inquiring into?—Yes.

1658. But, as regards Lowestoft, there is no particular demand, I understand, there for legislation?—No.

1659. You say there the fish is maintained at a fair average size?—Yes.

1660. And that it is not affected by the large quantity of miniature fish as to render legislation necessary?—Quite so.

1661. Do you attribute the maintenance of the quantities of good marketable fish there to the fact that you have no steam trawlers fishing?—I do, most emphatically.

1662. All your trawling, I understand, is done by sailing boats, is it?—Yes.

1663. Do you fish over the Hull and Grimsby grounds at all?—No; I should be very sorry to fish over the ground they have been fishing over.

1664. As a matter of fact, you do not fish over those grounds?—No; I mean, of course, where they have been catching these small plaice.

1665. I think you said you rarely catch fish under eight inches, did you not?—I never see such a thing landed in our market.

1666. Those you told the Committee you inspected at Billingsgate were from the Hull and Grimsby district, were they?—Yes.

1667. But you are not competent to speak to the grounds the Hull and Grimsby men frequent from practical experience are you?—No.

1668. But it is notorious, I suppose, amongst the fishing trade, that the fish of the North Sea are immature and undersized, owing to the steam trawlers over-fishing the grounds, is that so?—Yes.

1669. And is it, in your opinion, a fair contention that these trawlers over-fish the grounds?—Yes.

1670. And

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Mr. HAME.

[Continued.]

Mr. Kearley—continued.

1670. And were the fishing carried on under similar conditions to those of Lowestoft, and Plymouth, do you think the North Sea would recover?—They would be in the same position as we are in, in less than three years, I believe.

Major Jones.

1671. You told us that the speed of the sailing fishing boats is about two miles an hour, did you not?—We like to maintain that, to do effective fishing.

1672. What is the speed of the steam trawler?—I have never been on a steam trawler myself, but I am told by the masters that they maintain about three or three and a quarter miles, perhaps.

1673. Do you attach any importance to that increase in the speed?—They get over a lot more ground, of course.

1674. Do you think that is injurious to the fish?—It all tends to add to the catching power.

1675. But nothing apart from that?—No.

Dr. Clark.

1676. Have you ever been a fisherman;—No.

1677. You have only been a fish dealer, I understand?—I have been to sea a good deal in fishing vessels, and I am a sailor by profession, and have served my apprenticeship at sea.

1678. You have never been a hand in a fishing boat?—Only at odd times.

1679. You mean as going out for amusement?—Yes.

1680. You never gained your living by fishing, did you?—No; but my father did, and his father before him.

1681. You are, I understand, now, a part owner of smacks and a dealer in fish?—Yes.

1682. Do the Hull and Grimsby men come south in the grounds you fish?—No, I do not think I ever remember a case, except, perhaps, a cod vessel; they may, and the line vessels do, occasionally.

1683. As far as the class of fish is concerned that you deal in, they have not deteriorated in any shape or form during the last ten years, I understand?—No; for the last fifteen years I cannot see any difference.

1684. How do you account for the increase in price?—That is easily accounted for. The ramifications of our railways now, compared with what they were, quite accounts for it.

1685. That is, the competition of various markets?—Yes; I may say ten years ago every bit of fish landed in Lowestoft was sent to London, now we send it to every nook and corner. I send it to most outlandish places myself—Wales and the Isle of Wight.

Mr. Kearley.

1686. You do not mean to suggest that Wales is an outlandish place, do you?—Well, I do, as compared with London, and the distance, too, of course, is greater.

Dr. Clark.

1687. Have you heard from your fishermen whether there are special places in the district you fish in where the fish are rather smaller than in other places?—Yes.

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Dr. Clark—continued.

1688. That there are breeding places there, where, if you were working, you would get small fish?—I think the general impression among fishermen is this, that fish spawn in the middle of the sea, and it is a well-known fact, that the tide sets strong in an easterly direction, and it is my own private opinion that this eastern set of the tide carries the spawn to the Dutch coast, which accounts for our catching such large quantities of fish on that coast.

1689. Do you not think it would be desirable to have there a close time, or to prevent any fishing in those grounds during certain seasons of the year?—I should not like to see it.

1690. Why not?—I should lose my bread and cheese, I think, if that were so.

1691. You personally would look to your bread and cheese, then, in preference to the future of fishing?—I do not see the necessity for it. I do not think we have caught the class of fish that would do any injury.

1692. But supposing other people are doing it. If a different class of fishermen are doing it, do you not think something should be done to prevent it?—I think their own common sense should tell them to keep away from the ground.

1693. But supposing they only look to their pocket interests, what then; are we to have the fishing ground destroyed?—They have admitted they have been fishing where they ought not to; I have heard that at our conferences.

1694. What do you mean by "fishing where they ought not to"?—Catching these small fish.

1695. I suppose they fish for these fish, and have a market for them, and cannot get anything else, can they?—That I do not know. I do not know enough about their grounds.

1696. You only speak as a Lowestoft man, do you?—Yes. It seems to me to be very absurd to catch the class of fish which I have seen them land; a box of plaice containing 800 or 900 fish.

1697. Then you do not think any action should be taken by Parliament for the purpose of preventing it?—I do not see how it could be done. If I could see my way clear, I would suggest something.

1698. You are aware, are you not, that Belgium has adopted a law, and does prevent the smaller fish from being sold in the country?—I have made inquiries, and cannot find out that they do that yet. I have heard that they passed a law, but I do not know whether they have enforced it. Mr. Mundella told us, when we saw him, that if a law was passed in England, he should enforce it, but I do not know whether they enforce it in Belgium. I have heard that they do not; but I do not know whether it is true or not.

Chairman.

1699. May I take it that the evidence you have been giving is more especially as to the grounds on which the Lowestoft boats fish?—Yes.

1700. You do not profess, as I understand, to have any great personal knowledge of the North Sea itself?—Do you mean where the the Lowestoft vessels fish on?

1701. No; I mean where the Hull and Grimsby boats fish?—No.

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1702. Therefore

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Mr. HAME.

[Continued.]

Chairman—continued.

1702. Therefore your remarks as to the necessity of any of the restrictions which have been mentioned by witnesses from Hull and Grimsby would not apply from personal knowledge, would they?—No.

1703. With regard to the question of capital, is not your real objection to the amount of what I will call over trading, that you desire that the number of boats that go fishing should be reduced?—I have no objection to any increase in the number of boats if it has happened out of the trade. As I have said before, I believe with any trade well supported, the profit arising out of that trade can be re-invested in it.

1704. But is not your objection that too many boats are now fishing in the sea, and that the sea is being over-fished?—I believe there is room for every sailing trawler afloat.

1705. If that is the case what is the difference between boats which are supplied by capital from those who are not themselves fishermen, and boats belonging to fishermen themselves?—No difference whatever in the boats.

1706. Then why do you object to foreign capital, as you call it, being imported into the trade in order that better vessels may be employed?—I say it has been the means of introducing bad and careless habits among fishermen which only a practical smack owner will understand.

1707. But surely it is to the interest of the managers of these large fishing fleets in order to pay a dividend, to look after their fishermen?—Well, I know one or two large companies that have had managers who knew nothing more about a smack than they did about the fixed stars.

1708. Is it not the case in every trade that some people fail through bad management?—Well, speaking of Lowestoft, I do not think that that is so.

1709. But you object, I understand, to capital being imported into the trade, and I want to know the reason why you object to capital being imported into the trade which does not belong to the actual fisherman, for you say you do not mind how many fishing boats go to sea?—It helps to swell the catching power more rapidly than it should.

1710. Because there is more capital in it, and more boats are sent to sea?—Yes.

1711. Then you do object to the number of boats which are sent to sea, do you not?—Boats brought in in that way I do.

1712. Then we come back to the point that you do object to the large number of vessels that go fishing?—Yes.

Mr. Harry Foster.

1713. Do I understand your objection to be this, that a large amount of capital has been brought in which would not have been brought in by a fisherman, because he would have looked for a larger profit?—Yes.

1714. Whereas a large amount of capital has been brought in and sunk which has produced a large increase in the catching power, but not a large profit?—Yes.

1715. And is your objection that the catching power of the sailing vessels plus the steam

Mr. Harry Foster—continued.

trawlers has produced this over-fishing in the North Sea?—Yes, it has increased the catching power more rapidly than the demand.

1716. Irrespective of result?—Yes.

1717. And the result has been, has it not, that in Lowestoft alone steam trawling was introduced, and some 10,000*l.* was lost in three years?—Yes.

1718. Therefore fish was produced without a profit to the fish catcher?—It amounted to the same thing. If a thing is badly managed it comes to grief.

1719. With reference to the question of close time, Dr. Clark asked you whether you would not advocate a close time, and you said you would be sorry to see it?—Yes.

1720. What did you mean by that?—I do not think it necessary, for one thing.

1721. But if the fish nurseries, as we will call them, are invaded and disturbed just at the breeding time, would not it be desirable to prevent that being done. If the common sense of the men will not allow of that being done, would it not be desirable to enforce it if it can be done?—I am only speaking for Lowestoft. I do not know of any nursery we disturb. If I thought we disturbed the fish like the Hull and Grimsby people did I would say so in a minute.

1722. But assume that those other grounds are disturbed improperly, is your objection to the thing itself, or is it an objection on the ground of enforcing it, or as to the police?—My objection is on the ground of enforcing it.

1723. That is to say you do not object to the thing itself?—No.

1724. But you object because you do not see by what regulations a close ground could be kept?—Just so.

1725. How it could be policed?—That is so.

Chairman.

1726. Have you anything else you want to say to the Committee?—I want to make a few remarks because I think perhaps I might have been misunderstood about the capital business.

Mr. Kearley.

1727. You are not complaining, I understand, of these capitalists coming into the trade simply because they take the living away from the sailing trawlers, are you; you do not say that?—No.

1728. I understood you to say just now that if all the vessels that were afloat were sailing trawlers instead of steam trawlers there would be plenty of fish for them?—Yes.

1729. Is that what you allege?—Yes.

1730. But is it not the fact that capitalists chiefly invest in steam trawlers?—Yes, they do.

1731. It is the fact, is it, that the bulk of this capital which you object to is invested in steam trawlers?—Yes.

1732. And is it not the fact that you think the steam trawlers do all the injury?—I do, most emphatically.

1733. You said something about a boat in single ownership not being able to live on 5 per cent.?—Yes.

1734. *Id*

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Mr. HAME.

[Continued.]

Mr. Kearley—continued.

1734. Is this what you want to convey : if a company has 100 boats, and each boat belonging to the company realizes a profit of 1*l.* a week, there would be 100*l.* coming into the company which might pay a dividend, whereas 1*l.* per week per boat in single ownership would not pay?—Yes.

1735. That the thing being on a big scale and a big enterprise, they can carry on the thing and make it pay themselves; but that they kill

Mr. Kearley—continued.

or that they fish in a way that is detrimental to the fish?—Yes. I should like to say that we have Lowestoft and Yarmouth, 10 miles apart, and does it not strike everyone that there must be something at work to cause ruin at Yarmouth and prosperity at Lowestoft?

1736. How is it if these trawlers have fished the North Sea to death, that they do not come to patronize your waters?—The grounds are not suitable for them. They know that.

Mr. WILLIAM CASELEY called in; and Examined.

Chairman.

1737. You live, I believe, at Ramsgate?—Yes, I am a representative of the fishing industry of Ramsgate. I am Chairman of the Association there, and I am sent here to represent them.

1738. You have been in the fishing trade there for 40 years, I believe?—Yes.

1739. And during that time you have been an owner of smacks for 30 years?—I might say I had 25 years in the North Sea, and I know pretty well all over it. I have fished all over it.

1740. Have you served your apprenticeship?—Yes, I have gone from a boy right upwards.

1741. And you appear here to represent the Ramsgate fishing industry in opposition to any legislative interference, do you?—Yes.

1742. Will you state your grounds?—Yes, the grounds are these. We find that the grounds we fish on from Ramsgate every year are increasing. Our vessels are increasing instead of decreasing, and that cannot show the trade is in a bad state.

Mr. Robert Price.

1743. Increase in number do you mean?—Yes, increase in number. The smack owners are able to build more vessels, and there are more vessels during the last three years than there have been previously. We keep on our old fishing ground; we have no new ones, but we stay on our old grounds, where we have been since I started more than 40 years ago. We have no new place, but go over and over the same ground.

Chairman.

1744. Where are the grounds you fish?—From the Galloper Lightship in a line with the Texel, in an east to east direction from Lowestoft Ness, that is the line the Ramsgate grounds extend.

1745. You fish up to the Lowestoft grounds then?—Yes, we fish something in that line, and right up to the North Foreland.

1746. Are you now speaking exclusively with regard to that particular ground, or are you speaking generally with regard to the North Sea and those grounds?—We call that the North Sea; I think further beyond that we should call the German Ocean.

1747. But you are not now speaking with regard to the ground on which the Humber fleets fish, are you?—As a rule the Grimsby and Hull vessels do not come in our waters to fish, and our vessels do not go beyond that point. They

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Chairman—continued.

fish on both sides of the waters, they go as close over to Lowestoft fishing as they do sometimes over to the Dutch coasts.

1748. Your desire is to inform this Committee that, so far as the ground on which you and the other smack-owners from Ramsgate fish, you do not desire any restriction whatever, is it not?—We cannot see how it can make it any better for us. We quite understand all this bother about the immature fish that has been caught, but it has not been caught on the grounds where we fish. Small fish are caught all over the ground, when we catch the big ones we catch the little ones. I have heard it suggested that if we had a big mesh we should not catch the small fish. Granted we should not catch the small fish, neither would you get any sole at all, because a big sole will get through a small mesh, but if it was possible to make a trawl to catch a plaice and also a trawl to catch a sole, we should say: yes, let us have a big mesh. We do not want a little mesh to catch a small plaice; a small plaice, eight inches, is as big as my hand, and you do not want a little mesh to catch them. Then where is the remedy, what can you do? When you made a mesh that would not catch a small plaice you would not catch a sole at all. To be sure the soles would increase in the North Sea if you did not catch any, and you would not catch any.

1749. Have you any other statement which you wish to make to the Committee with regard to close time on fishing grounds?—If it is clearly shown that in certain grounds and at certain times of the year there was a great quantity of these undersized fish caught, sizes I mean that are less than the Belgians have put as their size, I think it is most necessary that such grounds should be protected if it was possible to do so.

1750. You would not be disposed to object to restrictions in certain places where it might be proved it was necessary, simply because you do not want them for your own grounds?—No, we would not object to it at all if it was proved there was a great quantity of these immature fish caught in those particular grounds. It is quite necessary that those particular grounds should be protected, and if legislation could be brought about to that end, we certainly would not find fault with the sizes which the Belgian people have adopted, because that size of fish would not hurt anyone. We do not land such size fish as that, so that could not interfere with our earnings.

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1751. That

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Mr. CASELEY.

[Continued.]

Colonel Cotton Jodrell.

1751. That is 7½ inches?—Yes, we never land such fish as that.

1752. Do you catch them?—I might say they are never brought into the harbour.

Mr. Harry Foster.

1753. You would like to see everybody kept off those grounds, would you?—Yes.

1754. Germans, Dutchmen, and Danes, as well as Englishmen?—Yes, we know as well as, perhaps, anyone knows here that fishing in the North Sea does not get better than it was 20 years ago. We know that the fish is greatly caught smaller at certain times, but not at all times of the year. It is a mystery which you cannot explain at all, but this week I have sold in Ramsgate fish as fine as ever I saw brought into the market. I have sold many great trunks of soles myself this week, and the finest that ever was brought into market. We do not find that the soles have gone so small as we do the plaice. Plaice are smaller, as a rule.

Chairman.

1755. Were you present at the Conference of the Sea Fisheries Association in February?—I have been to all of them, I think, pretty nearly.

1756. Do you object, except in exceptional cases, to the sizes which they then proposed for fish?—What are they?

1757. Brill under twelve inches in length, lemon sole under eleven, plaice under ten, soles under ten, and turbot under twelve?—It would be unreasonable to legislate on those sizes of fish, because fish caught round the British Isles are so different. On one part of the coast a ten-inch plaice or a 9-inch plaice would be a fat, plump, eatable little fish; whereas, on another part of the coast, it would not be worth eating.

1758. If I recollect that was the reason on which Ramsgate and Lowestoft objected to the restrictions which were first proposed some six or seven years ago?—It is quite possible it is so. There is so much difference where the fish is caught as to plumpness and eatableness of it. For instance, fish caught down the channel in Rye Bay and of Brixham are better, as a rule, than those caught in the North Sea; they are much better and more eatable.

Mr. Kearley.

1759. Why is that?—Simply because in those parts there must be better feeding. I think that no fish migrates very far from where it is born—wherever the fish is born there it grows and lives. I have trawled from the Eddystone Light up to Heligoland very nearly the whole way, I know the fishing all the way down. I am as much a practical man as anybody, and nobody has fished more in our English Channel and North Sea. We have a little place we call "The Falls" off the North Foreland Light, and also a place off Dover, and at those places the trawlers catch turbot and brill. You may go where you will, but you will hardly find any other place where fish is caught nearly so good as they are at those two places, simply because they get better food. I cannot tell how the food is there, but they get little smelts, and the fish

Mr. Kearley—continued.

are so much richer caught there than they are anywhere in the North Sea; there is no accounting for it.

Mr. Malloch.

1760. Do you consider that an 8-inch sole caught off Brixham, for instance, is good food and fit to send to market?—Yes, I do.

1761. And do you think it would be a hardship on the fishermen in that neighbourhood to prevent their catching a sole of that size at all events?—Yes; I think it would be a very great hardship on their industry to interfere with that size of fish.

1762. Should you object to these sizes: 10 inches for brill and turbot, eight inches for sole and plaice, if there were any legislation?—No, I do not think we should object to those sizes.

1763. You do not think that would be unreasonable?—No, it would not be unreasonable.

Colonel Cotton Jodrell.

1764. You acknowledge that you have heard that there was a good deal of immature and undersized fish landed and sold; you do not care about that yourself I understand, but do you think that it affects you indirectly in any way?—No, I do not think that that kind of fish is worth anything to anyone, and I do not think it would affect any fisherman where they were catching what I call mature fish or reasonable sized fish, because those small fish that you speak of no fisherman would catch if he could help it.

1765. It is not a question of that kind, but the question is they are caught and they do find a certain amount of sale in the London market, which is very near to you, and I want to know whether you think that affects you in prices at all?—No, it does not affect us in prices at all.

1766. What size mesh do you use?—We have different sizes in the trawl. We have a large mesh which I could put my fist through, and we have a small mesh which I could about lay my three fingers in.

1767. Do you have those on the same boat? Yes; that is in one trawl. A trawl consists of a large mesh and the small mesh; for instance, we have a mesh in the upper part of the net that I can thrust my fist through, and then the smallest part of the mesh I could only put my three fingers in.

1768. The smallest size, I suppose, would be about two inches from knot to knot?—It is quite that; I should think rather more, perhaps.

Commander Bethell.

1769. Why do not the Hull and Grimsby boats come on your ground, do you think?—In years gone by, the Hull and Grimsby people came from Ramsgate and Brixham, in fact they came from Brixham. They migrated to Hull, and went there because the fishing grounds laid then off the port or off the Spurn or the Humber, and they went there to fish because those fishing grounds were there. There was abundance of fish there to catch, and they found it was profitable, and of course they lived and grew there.

1770. Now they tell us their grounds are not profitable, and you say yours are profitable?—Who says their ground is not profitable?

1771. Hull

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Mr. CASELEY.

[Continued.]

Commander *Bethell*—continued.

1771. Hull and Grimsby people do?—Then how is it they are having vessels and steamers built as fast as they can build them?

1772. I will put the question another way: Is your ground suitable for the Hull and Grimsby boats?—Yes, if they like to come, but our vessels are not so expensive as their great vessels. They have made a mistake; they have vessels too big and expensive, and if they complain, it is only because their vessels are too big to do the work.

Mr. *Buchanan*.

1773. Your vessels are all comparatively small smacks, are they not?—All smacks of 40 tons, what the Hull and Grimsby people started with. They started with those size vessels, and smaller than that even.

1774. Are the Ramsgate boats all of that size?—There are none much larger than 40 to 45 tons, whilst the Grimsby vessels are up to 100 tons.

1775. What is the size of the trawl?—I might say the beams and trawls do not vary so much as the size of the vessels. They do not have very much larger trawls and beams than we do. That is strange, but possibly they are getting them a little larger now. They are now getting a 45-foot beam, whereas we have only 40.

1776. What is the size of your trawl?—A 40-foot beam with a 35-foot net as we call it.

1777. Do you speak what you believe to be the general opinion of the Ramsgate fishermen?—I do. I represent and confirm what they told me to say last evening.

Mr. *Furness*.

1778. How many people have you on your vessels?—Five hands.

Chairman.

1779. Are two of them apprentices?—We get three men and two boys, as a rule, but sometimes we get three boys and two men.

Dr. *Tanner*.

1780. Do you find any trouble now with foreign fishermen on your grounds?—We do not find any trouble at all, unless we happen to get into collision with them, with our trawl down, or in laying-to in thick weather, or anything of the sort.

1781. What distance do you go with your smacks?—The longest distance we go is about 100 miles from the North Foreland, fishing away to the east-north-east.

1782. Do you go on the Dogger Bank at all?—No, we do not go near the Dogger Bank.

1783. Do you find the fish falling off in number and size?—We do not find them falling off in number. We find a bigger quantity. That is the strangest part of it. We certainly do not get them so big as we did fifteen years ago, but we get some as large, although we do not get so many as large as we did fifteen years ago.

1784. Do you attribute that in any way to steam trawlers?—No, I do not think it is worth while to attribute it to steam trawlers. It is a great mystery we cannot explain, but the fact is 0.93.

Dr. *Tanner*—continued.

we are getting more small fish, and abundance of it, which you might catch if you liked.

1785. On the same grounds?—On the same grounds. There are more small fish caught in the middle of the North Sea than there were fifteen ago. Fifteen years ago you would not catch any where these Lowestoft people are fishing now, on what you call the shoals off Lowestoft. You could not catch them fifteen years ago like you do now; and now they catch abundance of them.

1786. Are you aware of the fact that fish do change their grounds?—I do not believe that fish do change their grounds. I believe where fish are born there they live and grow. I do not believe they go very far from the same grounds. I will give you my experience of it: for instance, in Devonshire you can catch plenty of big hake and red mullet, but you do not catch any off Hastings and Beachy Head, or in the North Sea. You do not catch megrams in the North Sea, but you catch them in Devonshire. Soles, which you catch in Devonshire, great fine soles, but you will not catch one in the North Sea.

1787. Is there any falling off in the take of soles?—Yes, certainly there is.

1788. Is that the black sole or the Dover sole, as it is called in the market?—In particular times of the year you catch more than you do at other times.

1789. Has there been any falling off in recent years in the catch?—Yes, where we could catch on the average two trunks of soles 15 years ago, we only catch one now.

1790. Can you explain how that is?—Only that the vessels keep increasing; the great catching power keeps on increasing, and you cannot get the supply. For 40 years they have fished over that same ground, 70 miles round they go fishing from Ramsgate, and they go fishing all the year round; and, as I say, you get as big soles as you did 20 years ago, but you do not get so many. How the supply is maintained and kept up is a mystery. We believe that the more the ground is stirred about and thrown over and raked about and cultivated, that the more fish grow and more come. If we were to leave those grounds and not drag over them at all, we believe they would get stagnant and get bad.

1791. Are you in favour of any legislation?—If you ask me point-blank that question, I say at Ramsgate we are against any legislation.

Mr. *Kearley*.

1792. You say the fishing results in your own district are satisfactory?—Yes.

1793. Notwithstanding the fact that the number of vessels has increased?—Yes.

1794. Do you continue to catch plenty of fish?—Yes.

1795. Have you any personal experience of the Humber fishing grounds?—Yes.

1796. Have you fished on those grounds?—Yes, many years ago.

1797. Was there much immature fish on those grounds at the time you had personal experience of them?—None at all; not on the off grounds,

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Mr. CASELEY.

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Mr. Kearley—continued.

grounds, off the Spurn, you could not catch a small fish.

1798. Do you attribute the falling off on that ground to the increase of the number of vessels fishing?—Nothing more.

1799. And the character of the vessels?—Yes, the steam trawlers.

1800. You think there are too many vessels for the area over which they fish, do you?—Yes; too many vessels for the area over which they fish, nothing more.

1801. Does that apply to your own ground?—No.

1802. You are quite satisfied with the results there?—Yes.

1803. You were asked whether you were in favour of a close time for fish; are you in favour of it; you said you were in favour of it, I think?—If it could be shown that in a certain district and at certain times in the year there were a great quantity of these immature fish being caught and landed, it would be reasonable that that district should be closed.

1804. Do you say that there are immature fish, from your own experience, on the Humber grounds?—No, I do not say so; I do not know.

1805. Then do I understand you are only in favour of it provided it can be shown there are immature fish on particular grounds?—Yes.

1806. Supposing such legislation was proposed to be made universal, how would it affect you; would you like it?—We think it would be unworkable.

1807. You do not want it, you say?—We do not want it.

1808. Do you say there is no national demand for it?—No, there is not.

1809. Either as regards the supply of fish or as regards the close season?—No, not in our district.

1810. But I understand you are in favour of legislation for particular areas?—Yes.

Mr. Kearley—continued.

1811. And you do not mind what area it is as long as it is not your area?—No, I do not say that. I say, if there is a place where there is immature fish caught, we are not in favour of any legislation at all.

1812. I understand it is only on those areas where immature fish is caught. Now, with regard to the size of fish, you say it varies in certain districts; have you ever heard it suggested that the temperature of the water is responsible for that, in some degree. You quoted Brixham, where you say you can get very large fish, did you not?—Yes.

1813. Probably the water there, owing to the temperature, is warmer than in the North Sea, is it not?—Yes.

1814. Have you ever heard it suggested that the temperature is responsible for that?—No, it never struck me in that way. It struck me that there were better feeding grounds there.

Mr. Harry Foster.

1815. When you say, if there is to be legislation you would not oppose it within certain areas if it can be shown that those areas would be benefited by legislation, do you mean by that international legislation?—Yes.

1816. Not simply British legislation?—Certainly not; that would be of no use.

1817. But you know I understand nothing whatever about these areas, and you cannot give any information or assistance with regard to them, can you?—No, I cannot.

1818. You have only spoken of the fishing you know of?—That is all.

1819. Then, as to what is called the three-mile limit, is any legislation necessary, in your opinion?—We have already a three-mile limit.

1820. Yes; but is any further alteration of the law necessary, in your opinion, as regards the three-mile limit?—No; I do not think it is necessary to have more than three miles.

Mr. JOSEPH MURRELL called in; and Examined:

Chairman.

1821. You are a fish salesman at Billingsgate, are you not?—Yes.

1822. And manager of the Grimsby Ice Company's fleet in London?—Yes.

1823. You have come here, have you not, to state your view with regard to the size of fish that you have seen sold. Will you tell us what you have to say?—I may say, Mr. Chairman and Gentlemen, that I have had a very wide experience. I am 60 years of age, and I began when I was a boy. Thirty-five years ago I was living at Lowestoft as a fish merchant, carrying on my business there, and the difference which some of the witnesses say in the quantity of plaice from Lowestoft is fallacious. At that time there was a fleet of 10 or 12 "well" vessels as we call them; they would come into Lowestoft on Thursday, discharge their cargo of fish, which was mostly plaice, consisting of 70, 80, or 90 boxes. I know this to be the fact, because I used to lend them boxes to put their fish in. They were vessels of 50 tons burden, with a

Chairman—continued.

beam of 40 feet. Then they would often stop in port till Monday morning. They had only about 70 or 80 miles to go. There were several banks where they fished: the Swate bank, the Brown bank, the Black bank, and the Well. They would go out on the Monday morning and be back again on the Thursday with 50, 60, and sometimes 70 and 80 boxes of large live plaice, take them out of the wells, put them into my boxes and send them to London. Now all these fish banks are absolutely fished out. No fleet of vessels can go there and catch what that little fleet of cod vessels used to catch in two or three days. Then, again, on the Dutch coast there was always a quantity of large plaice about the Texel.

1824. Are all the banks which you have mentioned fished out?—Yes.

1825. Will you state them?—The Brown bank, the Swate bank, the Black bank, and the Well bank. They range in distance from about 50 to 70 miles of Lowestoft. Then there used to be lots of fish about the Lemon and other places, and

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Mr. MURRELL.

[Continued.]

Chairman—continued.

and as I say at these places on the Dutch coast which are all fished out. After living there for 11 years I changed my residence to Grimsby, and I became connected with the trawl fishery myself individually as a smack owner, and also as a member of the Grimsby Ice Company which we started about 26 or 27 years ago. Some 13 or 14 years ago we built steamers on purpose to bring our fish to London direct, so that the London people should have the benefit of fresh fish—the primary object being, of course, to benefit ourselves and get better price for our fish—we have carried on that business up to the present time, and I find that we have been gradually decreasing year by year in the catch of large plaice. I might say that we used, of course, the same as others, to go to the Silt, the Horn reef, and other places where these small plaice are now being caught, because at that time you might catch a trunk or a trunk and a-half or two trunks of soles. But now there are no soles there and there is no inducement to catch the small plaice, because there is no prime to catch with it. I think, therefore, it is five years since we went there; we came to the conclusion amongst ourselves, and also as members of the association, that it was bad policy; in fact, a suicidal policy to kill these large numbers of small plaice year by year. Seeing also that the large plaice were diminishing every year, we could only come to the conclusion that we were killing the goose that laid the golden egg. The consequence was we determined as a company that we would not go there again, and we never have.

1826. When did you come to that determination?—Five years ago.

1827. In the year 1889 you had, I believe, 70 smacks fishing in the North Sea?—Yes, that was the average.

1828. And you caught 280,000 boxes of fish, did you not?—That is what we landed at Billingsgate Market.

1829. Of which 50,000 were large plaice?—Yes.

1830. In 1890 you had 76 smacks, had you not?—Yes.

1831. And you caught 290,000 boxes of fish?—Yes.

1832. Of which 45,000 were large plaice?—Yes.

1833. In 1891 with 90 smacks you caught 235,000 boxes of fish, did you not?—Yes; there is a diminution in numbers.

1834. Of which 40,000 were large plaice?—Yes.

1835. And last year, in 1892, with 97 smacks, an increasing number of smacks, you caught 240,000 boxes of fish, did you not?—Yes.

1836. Of which only 30,000 were large plaice?—Yes.

1837. In those four years your vessels had increased, had they not, over 25 per cent. in number?—Yes.

1838. But the number of boxes of fish caught were reduced by 40,000?—Yes.

1839. Whilst the large plaice had decreased nearly one-half, from 50,000 to 30,000?—Yes.

O.93.

Mr. Mallock.

1840. What is a large plaice?—Eighteen inches. We call a full-sized plaice about 16 inches.

1841. Would a 14-inch plaice be a prime fish?—Yes.

Chairman.

1842. Have you anything further to say with regard to the diminution of fish as to a cutter which came in on the 9th May to Billingsgate with 2,700 boxes of fish on board?—Yes, one of our cutters came to Billingsgate with 2,700 boxes of fish, and, according to the average, we ought to have had 300 boxes of plaice, and in years gone by we should have had that amount.

1843. You mean large plaice, do you not?—Yes; but we had only 50 boxes of what we may call mixed prime; that is a turbot or two on each box. We had 2,378 boxes of haddocks, 202 boxes of mixed offal, that is, cod, skate, and other things put into boxes by themselves, and only 39 boxes of large plaice. That is a falling-off which every one of you may see is something enormous. Certainly this 39 out of 2,700 boxes is rather exceptional, but lately, as you will observe, from 1889, in four years, we have decreased 50,000 to 30,000—it has been going on decreasing in the same proportion, or a little more. In fact I think I may say, without fear of contradiction, that the quantity of plaice we have landed this year in proportion to the number of boxes we have landed, is less a considerable deal than it was before; and, in my opinion, unless the sale of immature fish is stopped, or some means are taken to allow an opportunity of recuperating, they will become as the soles are, almost obsolete. Certainly lately we have found a few more soles, but I do not know how that is. Thirty-two years ago on the Dogger Bank we could fill a vessel in a couple of nights with plaice. This very place on the westerly shoal of the Dogger Bank where this boat came from which I mentioned with only 39 boxes, was one of the most prolific banks for large plaice anywhere in the North Sea, no matter where you went.

1844. Are you of opinion that this scarcity which has now arisen with regard to fish is caused by the over-fishing of the sea, or in consequence of the number of small fish that are caught?—My opinion is that the principal cause of the diminution of large fish is that the small are caught and killed and destroyed.

1845. Have you been present whilst the last two witnesses were examined?—Yes.

1846. Have you heard them state that they believed it was in consequence of the steam trawlers to a very large extent. Are you of that opinion?—I should be very sorry to say or think that steam trawling has been the cause of the large plaice all being killed. No matter whether it is a steam trawler or a sailing trawler, if they kill the small plaice it must, to my mind, diminish the large ones; it does not give them a chance to become large, so that whether a steam trawler or a sailing trawler goes on those grounds, the difference can only be comparative.

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Mr. MURRELL.

[Continued.]

Mr. Harry Foster.

1847. In its catching power you mean, do you not?—Yes.

1848. Have you any suggestions to make with regard to improving the quantity of fish or restricting the decline which is now going on in the seas with regard to the number of fish that are caught?—Yes; my friends and I have examined the case and thought the matter over, and attended the conferences and so on, and the only plan I can see you can adopt is to stop the sale of small fish round the coast. We are diminishing the quantity of the fish and also the food of the people by catching these small fish. I do not know whether you have examined any of the people who fry fish, but they are complaining most desperately. One of them said to me this morning: "I am completely starving; I am buying two or three boxes of fish a day, taking them home; I take 50 or 60 pieces out to fry and have hard work to make my money, and the rest is thrown away." Well, when you are determined to keep on catching fish, which is proved by everybody to be absolutely useless, except for manure. I think it is almost time the Legislature took it up, but you cannot of course get human nature all of one mind. I am sorry to say that one of our large companies (although I am not sorry because they are making money, and earning three times more than we have been—though it is only just for the time) by taking these small plaice which have been making 6s., 7s., and 8s. a box. When we left off catching them, they were sometimes making 1s. and 1s. 6d., and sometimes we had to throw them away, they were unsaleable. But this year because big plaice are so scarce, there is nothing for the fryers to buy to carry on their business, with except this small rubbish, and they complain and say they are starving. Everybody is complaining, in fact.

Chairman.

1849. You do not believe, do you, that any restriction whatever would altogether prevent the catching of small fish, but you do believe, that if the sale was prohibited, that would mitigate the evil considerably?—I believe if a prohibition against selling them in all the markets was adopted, it would be no use going to catch them. A man would not be so stupid as to catch this small fish when he could not sell it—it would be useless for him to do so.

1850. Have you any other statement you wish to make?—There is a general statement I wish to make, as to the evidence with regard to Ramsgate. Ramsgate has not increased very much, but I think if Ramsgate and Lowestoft had increased in the same proportion as Hull and Grimsby, the little area they fish over would have been exhausted long ago. It is because of the small number of vessels, I think, that the small area of ground is kept up, and the supply is equal to what it was five or six years ago. I know where these gentlemen fish now, from the North Foreland back of the Galloper and off Lowestoft, Southwold; and when I lived at Lowestoft, the Torbay fleet where often bringing fine cargoes of fine soles, turbot, and large plaice into that port; I have bought many cargoes myself.

Commander Bethell.

1851. I daresay you know that we have had some evidence from Plymouth as well, do you not?—Yes.

1852. And the witnesses all agree that in the first place, they have no steam-trawlers whatever, and that their fishing grounds have not decreased in any way whatever, nor have the size of the fish decreased. Does not that strike you as being rather important evidence, and as going in the direction to show that a great deal of the damage is done by steam trawling?—No, not exactly that. It goes to prove that Plymouth, the same as Lowestoft and Ramsgate and other places, have not been persevering and pushing in catching fish, because if there had not been the steam trawlers we should have had a greater quantity of sailing trawlers at Grimsby and Hull.

1853. Is it not your opinion that a steam trawler, owing to the fact that it is always dragging its trawl, wind or no wind, and owing to the fact that it keeps one of its two trawls down so much more constantly, does much more harm to the fishing grounds than the sailing vessels?—Decidedly. I should be very foolish to think or to say that if you have a large quantity of vessels fishing in a certain area, and they are going to clear that ground in a certain time, a certain number of steam trawlers as compared with the sailing trawlers, would not clear that ground quicker. They must do so.

1854. Is it at any rate open to doubt whether, if there had been no steam trawlers you would not still have had plenty of fish, and that the sailing smacks, even though they increased in number, owing to the fact that they cannot get so many fish nor do so much damage, would not probably have worn out the fishing grounds as they have been worn out?—I may say the steam trawlers have been guilty of catching these small plaice at times ever since they have been inaugurated.

1855. Steam trawlers, in fact, are, from their nature, exceedingly destructive to fish, are they not?—Yes, but they are productive too. They have gone to Iceland and brought a large quantity, and brought a glut of splendid stuff into the country to eat. Others have gone to the Bay of Biscay and other places where sailing trawlers could not have gone. I have no investment in steam trawlers myself, and have no reason to laud them up to the skies, nor have I any reason to depreciate them.

Mr. Buchanan.

1856. From what you say, your ships in the last few years have not been fishing on the Dutch and German coasts, I understand?—No.

1857. They have been fishing, I understand, somewhere to the west of the Dogger Bank lately?—All over the Dogger Bank, from the pits down to what we may call the tail end of the Bank, and the Little Dogger Bank.

1858. Do I understand that you catch there about as large a proportion as you have given of undersized fish?—No.

1859. The figures you gave were 39 boxes out of 2,700?—A large quantity of those referred to are not plaice at all, they are haddocks.

1860. But

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Mr. MURRELL.

[Continued.]

Mr. Buchanan—continued.

1860. But your evidence to a certain degree seems to me to be new. Hitherto all the evidence we have had as to the catch of these undersized plaice has been evidence as to fish caught practically in one district of the North Sea. Now your evidence seems to show that there is an equally large catch of undersized plaice and other fish (particularly of undersized plaice) in other parts of the North Sea, of which we hitherto have not heard so much?—You have misunderstood me; it is nothing of the kind. I will state this again. Out of the cargo landed on the 9th in Billingsgate Market, consisting of 2,700 boxes of fish, there were 50 boxes of mixed prime, that is a turbot or two on a box with offal to make the box full; 2,378 boxes of haddocks, very large haddocks, fine haddocks; 202 boxes of mixed offal, consisting of skate, cod, &c., and 39 boxes of large plaice.

1861. Then do you agree that the only part of the North Sea, where a large quantity of undersized fish is caught, is upon this district on the Dutch coast?—Yes, and the Danish coast.

1862. Practically, only there?—Yes, practically.

1863. Then have your ships not been catching undersized fish?—For five years we have not sent a vessel there. We have always religiously abstained from going there.

1864. But have you been catching undersized plaice?—No; there is no undersized plaice on the Dogger Bank.

Mr. Furness.

1865. You stated that the earnings of your vessels were smaller when you had a larger number of vessels?—No. The figures I gave were these: we had 70 vessels in 1889; 76 in 1890; 90 in 1891, and 97 in 1892.

1866. Were laid up in 1892?—No. We have been increasing the number of our vessels during the last four or five years, and last year we had 97.

Dr. Tanner.

1867. I understand you to say that five years ago you could get two trunks, or two-and-a-half of soles, and now you can get none?—Not five years ago, but 12 or 15 years ago.

1868. The falling-off in soles, I understand, has been very remarkable?—Yes.

1869. And you think the reason for that is over-fishing, do you not?—Yes.

1870. And taking immature fish?—Yes. All along the Dutch coast, 25 or 30 years ago, there was any quantity of soles. A vessel could go there and almost fill herself. In fact, they used to run cutters into Lowestoft.

1871. Is it a fact that you find soles are frequently caught on the grounds where these immature fish are?—There are very few caught there now.

1872. Is it a fact though?—It is a fact that there are very few caught amongst them now. As I was saying just now, one of the Hull fleets are fishing there, and I have been minutely watching what they have been bringing in, besides the small plaice.

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Dr. Tanner—continued.

1873. Do you think enlarging the mesh would be of any service?—There is a very great doubt in my mind, whether it would or not. Some people who have had more practical experience, so far as fishing is concerned, than I have, are of opinion that it would; but I have a doubt about it myself.

1874. Up to what standard would you prohibit fish; the Belgian or the French standard?—I should think a little bit larger than the Association has laid down, if I had my will.

1875. Can you tell me what becomes of the immature fish sold in the London market?—There is half of it thrown away. The friers buy this fish generally, now. It is no use to fishmongers. It is the poorer class of people who keep the fried fish shops who buy it. They tell me they have to throw more than half of it away, and the sanitary cart comes and collects it, and they have to pay for it to be taken away. It is taken somewhere, and used most likely for manure.

1876. Can you give me any information as to the proposition placed before this Committee with regard to giving local committees power to regulate these North Sea fisheries?—What would the committee be formed of? Before replying to a question of that kind, I should want to know who the committees were, and what they consisted of; whether they were practical men, or something of that kind.

1877. You would be, I understand, in favour of general legislation dealing with the subject?—I would.

1878. Prohibiting the sale of undersized fish?—Yes.

1879. And you are, I understand, in favour of steam trawlers?—Yes. I am in favour of steam trawlers.

1880. Are you in any way connected with steam trawlers?—No. I have no shares in steam trawlers. The company I belong to have five steam carriers.

1881. But you have no steam trawlers, have you?—We have no steam trawlers at present.

1882. You are connected, I understand, with the port of Grimsby?—Yes.

1883. How many steam trawlers have you going out of Grimsby?—I do not know.

1884. A large number?—I do not know from absolute facts, only from what I hear. I have been living in London now for 14 years, and I am only connected with Grimsby by belonging to the company.

Mr. Robert Price.

1885. Do you think the proportion of small fish is larger in the catch the steam trawlers make than in the catch the sailing trawlers make?—I cannot say. I have had no experience of steam trawlers. There were none in Grimsby when I left, and I cannot say what their catches consist of.

1886. With regard to the sizes, do you think any legislation with regard to the prohibition of the sale of undersized fish would be of any use, unless it were by international agreement?—Yes. My opinion is, that without international law it would be of very great benefit to the English.

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Mr. MURRELL.

[Continued.]

Mr. Robert Price—continued.

The foreign people now are sending very large quantities of very small plaice into our London and country markets, some to Hull, and some to Grimsby. If they were not allowed to sell it in these markets they would not send it.

1887. Do you not think they would sell it elsewhere?—I do not see where they are going to get a market. If there was a market at home they would not send it here now.

1888. With reference to the fried fish shops, you said the reason why there was such a comparatively good price for small fish now, was because these shops were compelled to buy it?—Yes.

1889. And the consequences is that they pay 8s. a box for what they only paid once 1s., is that so?—That is when they are scarce.

1890. But still, they do command a greater price, do they not?—Yes.

1891. What are the small fried fish shops going to do if you prohibit the sale of that fish?—They would buy the 10-inch plaice.

1892. But why do not they buy that now?—They do buy it among the others.

1893. Why do not they buy the larger size only?—Because there is none of that to buy, except at prohibitory prices.

1894. That is what I want to know, what are they going to do afterwards?—That I cannot say.

1895. Do you think, if it were possible, that a prohibition of steam trawling in the North Sea would be of any value. We have had a good deal of evidence that steam trawlers do a considerable proportion of the damage?—These steam trawlers, according to their catching power do more harm in clearing the North Sea of fish than sailing trawlers do, but only in proportion.

Mr. Kearley.

1896. As regards the figures you gave us about a certain quantity of fish and the percentage of prime, where were those fish caught?—On the Dogger Bank.

1897. Would they be caught by the Humber fleet?—By the Grimsby fleet of sailing vessels.

1898. Have you had any experience as to similar fish coming from the west of England?—No. I have not.

1899. You simply have had this experience because you happen to be connected with the vessels which brought the fish to market?—Yes.

1900. Other than that you have had no practical experience of other districts I believe?—Only when travelling as a fish merchant before establishing myself at Grimsby. I had a large experience at Lowestoft.

1901. Was that before this immature fish question came up?—Yes; that was 35 or 36 years ago.

1902. Do you suggest as a remedy the stopping the sale of small fish?—Yes.

1903. Of course that would involve the stopping of the landing of small fish, would it not?—Yes.

1904. And practically the stopping of the catching of it?—Yes.

1905. I should like to have your opinion as to whether it is possible to stop the killing of it unless you prohibit the vessels going to the grounds

Mr. Kearley—continued.

where it is notorious these small fish are?—Well, there should be a penal law and there should be cruisers there to find and apprehend the crew of vessels if they went there. They certainly then would be running a very great amount of risk, but in the absence of any legislative powers or any protection being afforded to the grounds by cruisers which would apprehend these men, there would be a certain kind of people who, if they could make it pay by getting a quantity of fish from those grounds, most likely would do it.

1906. Of course there is fish caught in these districts which appear to be satisfactory as to size, although there will be small fish caught no doubt; but I take it that in the North Sea the majority of the fish caught consists entirely of what we term immature fish?—No.

1907. Not in the North Sea?—No.

1908. Not where the Hull and Grimsby fleet go to?—No; there is only this one district, you may take it from the Borgholm Reef to Heligoland to the Silt, and the Silt to the Horn Reef close in there where there are these small immature fish. If you get 40 or 50 miles off that coast you will find no small immature fish there or very few.

1909. I had gathered from the evidence which has been given that wherever the Hull and Grimsby fleets fished they found immature fish, is not that so?—No. I do not know how you could ever have got that idea. It is quite at variance with the facts of the case, because the Hull and Grimsby vessels fish in deep water and on the Dogger Bank, where lots of the small vessels which fish on the coast could not and would not go. We are fishing in 55 and 56 and 57 latitude, where the Lowestoft boats and Ramsgate boats would not go.

Mr. Marjoribanks.

1910. Would not the effect of your proposal be to stop the means of livelihood for the owners of these small vessels?—No.

1911. They could not fish in the deep water and the open sea, where you fish?—From the evidence which, I think, you have had from the Ramsgate and Lowestoft people, they do not go and fish where these immature fish are.

1912. That is not my point. You say this immature fish is caught by small vessels which are unable to fish in the water where you fish?—I did not intend to convey that.

1913. That was what you said to Mr. Kearley?—Will you repeat your question, Mr. Kearley?

Mr. Kearley.

1914. My question was, was it simply in the North Sea, where the Hull and Grimsby fleets fish, that immature fishing prevails all over; and I understood you to say it was not all over the North Sea?—Yes.

1915. But we have been defining the North Sea. I do not know whether it is a correct definition, probably it is not, as the area where the Hull and Grimsby fleets fish?—You can take the North Sea from the Horn Reef over to the Scotch coast as far as Holland, striking a line across to Yarmouth, which is the southernmost part, and there is a large area at the Dogger Bank, also a large area without the Dogger Bank, and what I meant to convey in answering your

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Mr. MURRELL.

[Continued.]

Mr. Kearley—continued.

your question was this: you asked me, did I understand that where the Grimsby and Hull fleets fished there was always immature fish. In reply I said: "No. It was quite the contrary, because the Grimsby and Hull fleets fished in the higher latitudes where the Lowestoft and Ramsgate fleets would not go. You could not drive those men into latitude 55; they would not go. But, certainly, there are large vessels which are fishing where these small plaice are, and catching these immature fish. The Ramsgate and Lowestoft people say they do not go there. How they can be opposed to a close time, or not allow this immature fish to be sold, but to keep it in the sea, when they do not go there, I cannot see. It must be for their benefit if it is left in the sea to grow, because their areas of ground are so much closer.

Mr. Marjoribanks.

1916. That is exactly my point; you say the Hull and Grimsby fleet do not go to this ground, and equally, the Ramsgate and Lowestoft people, say they do not go?—They say they do not go.

1917. We can accept what they say, I suppose?—Yes.

1918. Therefore, to close these particular grounds, would be not closing the grounds against the Hull and Grimsby fleet, or the Ramsgate fleet, but against certain other small vessels which you say do fish there?—Small and large. It would close those grounds against all vessels going there.

1919. But it would not affect you, though?—It would benefit us.

1920. But you would not have the ground closed against you, would you?—If it affected us it would affect us beneficially.

1921. But you do not go there, you say?—But it would allow the fish to grow.

1922. Quite so, but the point is, it is suggested, we are to close the grounds, not against the big trading companies, but against small fishermen?—As I said, there has been one Hull company running there for the last six or eight weeks and bringing tremendous cargoes of immature fish.

1923. Then you do go there?—One of the companies do.

1924. Do you go there or do you not go there?—The Grimsby fleet, which I represent, has not been there for five years.

Mr. Marjoribanks—continued.

1925. Then it will do no harm to Grimsby; but Hull does go there, does it not?—Hull does go there.

1926. Therefore you would close those grounds, would you not, against Hull?—I would.

1927. Then Hull would be affected by the closing of these grounds, would it not?—Yes; that one fleet.

1928. At any rate, you at Grimsby would not be affected, would you?—No; and I really think the Ramsgate and Lowestoft people would be the people to benefit most.

Mr. Kearley.

1929. I do not think there is any objection on the part of the outside people to the areas being closed. They only object to a universal closing which would tend to shut up fishing grounds which they, from their local experience, say are perfectly well stocked with fish, satisfactory as regards size?—Quite so. I heard them say they did not want any legislation at all, but I think they would benefit by it more than anyone else.

Colonel Cotton Jodrell.

1930. You spoke about having left these banks five years ago. Do you know whether they have recovered at all since?—I was speaking then of 35 years ago; the Swale Bank, the Black Bank, the Brown Bank, and the Well Bank.

1931. But you said five years ago you left them, did you not?—No. I said five years ago we left off going across to the Silt.

1932. Do you know if those grounds which you left five years ago have recovered at all in the meantime. I understood you left them because they were more or less fished out?—We have only the proof that that one Hull fleet has fished on the ground for the last six or eight weeks and has brought tremendous cargoes of this small stuff.

Mr. Marjoribanks.

1933. But I think you ought to confine your evidence more to the Grimsby fleet, of which you know something, rather than to the Hull fleet, of which you only know by hearsay?—But I see landed in Billingsgate Market every day; 2,000 or 3,000 boxes small plaice, some of them only a few inches long.

Mr. EDWARD JEX, called in; and Examined.

Mr. Marjoribanks.

1934. You are a large shareholder of the Hull Steam Fishing Company, I think?—I am.

1935. And you also own a considerable number of trawling smacks of your own, do you not?—I work 12 smacks of my own from the port of Great Yarmouth.

1936. I fancy you are also interested, are you not, in the long lining and drift net fishing?—I, as a lad, was long lining between 10 and 12 years of age, after which I was also a boy on board a fishing boat at Scarborough at 12 years of age, and also at Plymouth.

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Mr. Marjoribanks—continued.

1937. Are you now interested in long-line fishing?—No; not at the present time.

1938. For many years, I believe, you went to sea in trawlers of your own?—I did.

1939. And you have for a great number of years, have you not, been a fish salesman in London?—I have.

1940. Have you also taken a great interest in the fisheries, and have you been connected with the various fishery exhibitions both at Norwich and in London?—I may say I was chairman of the only jury at the Norwich Exhibition, and

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[Continued.]

Mr. Marjoribanks—continued.

I was chairman of the principal jury of the Fisheries Exhibition of 1883.

1941. Then both from a theoretical and practical point of view you have had a very great opportunity, have you not, of making yourself generally acquainted with the condition of our British fisheries?—I should think no man more so in England.

1942. Can you tell me whether the price of fish in London has gone up very much within your experience?—During my experience I should think it has gone up in many instances as much as 500 and 600 per cent.

1943. Has that been a gradual and steady increase, or has it been a fluctuating one?—It has been a steady increase through the depopulations of the various fishing grounds.

1944. But still, I suppose, weight for weight, as much fish is put into the market now as was put into the market, we will say, 20 years ago?—I think probably there may be more in weight.

1945. What would you estimate the average increase in prices to be over what I may call prime sorts of fish during the last 10 years, say, as between 1883 and 1893?—It probably would be something like 200 to 300 per cent., and previously I might go back into times when it would be 1,000 per cent. in the case of soles.

1946. That is an old story which we have had before, about the dearth of soles, but I should like to know what you would put the average price per pound for soles 10 years ago and now at; can you give me that roughly?—I could not give it to you roughly. I might give it to you per trunk. I may say this, in the first place all our fish is sent in boxes, and those boxes used by all fishing smacks and steam carriers would average about 90 lbs. of fish. We sell them all by public auction to the highest bidder; we do not care who he is or what he is; and if he bids something higher than anybody else it is knocked down to him and is sold.

1947. I do not want to take small soles, but taking an average trunk of soles, can you give the Committee the difference?—Probably a trunk of soles 10 years ago would fetch 5*l.* or 6*l.*, and to-day the same trunk would not fetch more than 4*l.* or 5*l.*; hence there would be no increase in value. Now that arises from the fact that we have been heavily supplied with French soles for the last few years.

1948. Then so far from the price of soles per trunk being higher now than it was 10 years ago, you tell us it is lower?—Exactly; and I want to show you why it is lower. If the English sole was only in the market to-day it would fetch 10*l.* per trunk.

1949. Where do the French soles come from?—They are a very migratory fish. They are found in the Baltic, on the coast of Scandinavia, down the North Sea, on the coast of France, Spain, Portugal, in the Mediterranean. This supply is coming from the coast of Spain and France. Many of our steam trawlers are working the coast of Spain and running the fish over to Plymouth, and making as many as 40 large kits of soles there in seven days.

1950. So far as the question of price is con-

Mr. Marjoribanks—continued.

cerned, as regards soles, we should be wise to put that point of comparison out of view, I suppose?—Certainly.

1951. Then we had better leave that; you have yourself a large number of smacks fishing in the North Sea, I understand?—I have.

1952. Ten years ago, did those smacks bring to market a considerable number of soles?—Yes, they did; more so than to-day.

1953. Could you at all tell me what the proportion of soles to other fish was that they brought to market 10 years ago and now?—I should think the proportion they brought was 200 per cent. more than they are bringing now.

1954. That is to say, do you think they brought three soles then for every one they bring now?—I should think fully that, or more.

1955. And with regard to the actual quality of the soles themselves, do you see a great difference in that respect; are the present soles much smaller or are they about the same size?—I have a sample which I should like to show you, some of which came to-day.

1956. I only want to know as to the average?—That is so, considerably so; and, in my opinion, they will fall off more and more. The seas are being swept and the grounds being depopulated from day to day, and if the Legislature does not do something on behalf of the public, as well as the fishermen, they will become a scarce food altogether. They are being wiped out, and it is a disgrace to the Legislature to allow it to be done in the manner it is. The depopulation of our seas around this coast is something terrible and disgraceful. I have here a 12-inch brill. In the reign of George I. no brill was allowed to be sold under 14 inches. Since the repeal of that Act they have been allowed to do as they like. *Here* is a 12-inch turbot; *here* is a 10-inch plaice, and *here* is a 9-inch plaice, and *here* are some haddocks which are caught by trawlers. *Here* is a 7-inch plaice which a man from Brixham, or Plymouth, would say should be caught. They ought to be caught with them, it would do them good. *Here* is a 9-inch dab, and I think for honourable Members to sit here and hear the stuff that is told them is monstrous. *Here* is a 7-inch sole which people would advocate catching. No one could eat the flesh on those bones. *Here* is a 10-inch sole. I ask you is that large enough to be caught. It is a shame even to catch it. If I had my will I would not catch one under 12 inches. Fish is very deceiving in size, and there is nothing more rapid in growth.

1957. As a matter of practice do you on your own smacks throw back these small fish when they are caught. I want to know what is your own practice on board your own boats?—A large proportion of immature fish is thrown overboard.

1958. You do throw it overboard, do you?—Yes; no doubt about it; we are compelled to.

1959. And you yourself, in your own smacks, do not bring any of these small fish to market, I understand?—It would be quite useless to send them to market.

1960. May

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Mr. JEX.

[Continued.]

Mr. Marjoribanks—continued.

1960. May I ask where you got those samples from this morning which you have produced?—I sent over to the market and collected them. Some of these came from Lowestoft; and these are the things the people there are advocating the catching of.

1961. The point is this, were these fish exposed in the market for sale?—Yes.

1962. And they find a ready sale in the market, do they?—No, I do not know that they find a ready sale. These things come in barrels from Lowestoft; several barrels every day, and they are sold for 3d. and 4d. per lb.

1963. But they do find a ready sale, do they not?—They do, because they cannot get any others.

1964. At any rate, your opinion is, is it, that the destruction of these fish is very detrimental to the fishers?—It is detrimental to the public more than to the fishermen. It is the great mass of the public we have to look to; we are destroying prospective food.

1965. What do you propose as a remedy to prevent the destruction of these small fish?—My opinion is this, and I have a letter from a man who is the owner of 12 or 14 smacks, which I will read. I think it gives one of the very best proofs you can possibly have. He says: "I quite agree with you that there should be something done in reference to the sale of the small fish; if they are not allowed to be sold, they would not half of them be caught, for they would not go inshore after them, if they knew they were not saleable, if they did catch them, they would be thrown overboard again, and I am sure half of them would live, but while there is a sale for them, they are sure to send them to market on purpose to make the steam carriers pay. But in reference to the mesh of the trawl net," (this is the important point I wish to draw your attention to) "they cannot do any good altering that, I tried it only last year; I had three cod ends braided with large pens, and gave them to three of my largest ships when they were working at Terschilling, and the consequence was when they found they did not get only half as many soles as my little vessels, the other half going through, they took them away, and bent their old size mesh." That is from a man who has served his time in the trade, and been in it all his lifetime. He says, because he braided some cod ends in his net, a little bigger, the fish went through, and they were bound to take them off and put on the others. It must be patent to any man who has any brains at all. Take the cod end of a net, with 2½ inch or 3 inch of mesh, as the case may be. It has been said, the mesh is drawn straight; then, if it is drawn straight, and nothing can get through, why not have it 6 inches. But they would not like that. I say, as a big smack owner, and on behalf of the public, that these meshes ought to be increased in size to allow these immature fish to escape, and be captured when they are in a proper state to be captured.

1966. I remember the last time you gave evidence before me upon this subject, which I think was in 1884, you made three recommendations, one was that the size of the mesh should be regulated.

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Mr. Marjoribanks—continued.

lated, the second was that trawling within the territorial waters should be prohibited?—Yes.

1967. And the third was that people in possession of fish below a certain size should be made amenable to law, was it not?—Yes.

1968. Do you hold with those views now?—I hold with those principles, *in toto*. I say the Government ought to pass an Act, as they did with regard to the crab and lobster, which Act did a lot of good. By that Act, a man was not allowed to have a fish under a certain size, leaving it in the hands of Government to fix the size. The same ought to be the case here. I say a turbot never ought to be caught less than 14 inches.

1969. Do you think that such an Act applicable to Great Britain alone would be sufficient, or do you not think it would have to be an Act which would have to be international?—If you could get it international so much more the benefit to our own fishermen and to the public also, but if we cannot get a whole loaf let us have half a loaf; let us stop the foreigners sending them here.

1970. May I further ask, do you think it would be practicable to prohibit the capture of fish below a certain size?—I believe this prohibiting the capture and regulating the size by an Act, passed by the Government, would make the men find their own means of catching the fish.

1971. That is not an answer to my question. There are three ways of regulating the size for this purpose: you may prohibit the capture, you may prohibit the landing, you may prohibit the sale. Now the recommendation of your Association is that, the sale and landing should be prohibited and not the capture. As I understand, you go further than your Association, and you propose that the capture also should be prohibited. Do you propose that the capture should be prohibited, or do you not?—I oppose the landing and sale.

1972. I want you to say, yes or no to this question. Do you propose to prohibit the capture, or do you not?—I do not think I should prohibit the capture, but I think the men would regulate the mesh.

1973. I am not talking about the mesh. I want to know whether you agree with the Association that it is impossible to prohibit the capture?—I think it would be impossible to exclude the whole capture. They would capture some no doubt.

1974. Is it possible on board a trawl vessel to sort the small fish from the rest of the catch?—A large proportion would go through; 50 per cent. would go through.

1975. What I want to know is this: after the fish brought up in the net and turned out on the deck of the trawler, is it then possible to separate the immature fish, the small fish, from the big fish, and throw them back so as to be able to give them a chance of living?—Yes, and there would be no difficulty at all.

1976. May I ask from your experience, what proportion of these fish brought up in the trawl do you find alive?—Fifty per cent.

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1977. You

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Mr. JEX.

[Continued.]

Mr. Harry Foster.

1977. You agree with the letter you read then, do you?—I do agree with it. I have been myself there time after time, month after month, and found it so.

Mr. Marjoribanks.

1978. You have heard the evidence which has been given by other witnesses before this Committee, and you have heard that that evidence has been to the effect, that 10 per cent. may be alive or much less, or hardly any would be alive. You disagree with that evidence, do you?—I do not agree, I think it would be more.

1979. As I understand, you account for the decrease in the catch of soles in the North Sea by the amount of over-fishing, do you not?—I cannot say over-fishing.

1980. Then how do you account for the decrease in the catch of soles to which you have particularly referred?—Continually raking over the fishing grounds, and by taking such things as these produced here. If you kill all the young lambs you will get no sheep, and if you kill all these soles before they bring forth their kind, how can you expect to be supplied with soles?

1981. Still it is by the over-fishing, is it not; it is by the trawlers catching too much, and by their catching too small fish, is it not?—Yes, too small fish.

1982. Then is not the remedy to a great extent in the hands of the trawlers themselves. I mean a big smack owner like you, or a big company like the Hull Steam Trawling Company, might do a great deal to remedy this state of affairs themselves, might not they?—I do not see it.

1983. They are not obliged, are they, to catch these small fish?—I think it is for the Legislature to do that part of the business.

1984. In fact, you great big companies, of which you are here as representative, want Parliament to step in and protect you against your own ingenuity, is not that so?—No, we want, if you like, a certain mesh of net, and no man should be allowed to use a net of less than that size, which will allow the food to be matured. But we cannot do away with any fishing. The North Sea is a free and open sea for any nation to come to.

1985. It seems to me to be a moot point whether the enlargement of a mesh would have any effect. The practical witnesses we have had before us, and witnesses I have heard on former inquiries of this kind, have agreed that the mere enlargement of the mesh would not allow these fish to escape?—The differences of opinion are very wide, I acknowledge, but at the same time you must bear in mind they lose sight of one thing, and that is this, the ship is buoyant on the water. She is acted on by the sea, and I have been at the capstan myself when I could get one paul of the capstan, but when the vessel has receded by the action of the sea, I have been able to roll in two or three fathoms. You find the explanation in this letter which I have read. If the mesh did not open the fish would not have gone through. You have a letter here from a man of experience, and I have my opinion also, which is the same.

Mr. Marjoribanks—continued.

1986. Could you explain to us the improvement you would recommend in the construction of a trawl net?—Not a mesh of the size this man told you about, from Ramsgate. I would put four fingers into it instead of two.

1987. What would happen to all the round fish that got caught in the net; what sort of sized haddock would get through the mesh of a net through which an 8 inch or 10-inch plaice would escape?—*Here* is a 10-inch haddock, and that is as small a haddock as any man should take, or ought to be caught; with the mesh we are now talking about, if enlarged, probably this would escape, probably to be caught when he was a little bigger.

Mr. Harry Foster.

1988. If he was much bigger would he escape?—That all depends; he might grow to be a very large one, but in my opinion we want to do the best we can for the public all round, and for the fishermen too, and if we are destroying tons and tons of fish daily we are doing a great amount of harm both to the public and to the fishermen also.

Mr. Marjoribanks.

1989. Supposing the regulations you recommend were enforced, namely, the standard size of mesh, the prohibition of trawling within the three-mile limit and the prohibition of the possession of fish under certain limited sizes, how would you propose to enforce those regulation?—I would enforce them through the Customs.

1990. But how would these matters come before the Customs?—They are wonderfully energetic in their work as regards a smack or trawler going to sea without a number plainly painted on her sails, and they are very sharp to see that they have no tobacco on board of them when they come in, so there would be no difficulty in their measuring the mesh of a man's net. There would be no more difficulty in its being done under the Customs than there is in searching all over her for an hour or two to find two penn'orth of tobacco. They could measure her nets in 10 minutes.

1991. That is as far as the nets are concerned; what about the size of the fish; could they measure the fish on board?—A man would not attempt to bring in any fish on the shore if there was a penalty against it.

1992. Then your long experience of sea fishermen goes to prove, does it, that they are a body that never seek to avoid the law under any circumstances whatever?—No, I cannot say that.

1993. We have heard from a practical fisherman who sat in your chair that the one thing that they thought they were entitled to do was to evade the law?—I have been in one of my little smacks of 30 tons fishing at the Knoll, 20 miles off Yarmouth, and I have caught more fish in one night there than I can take with one of my 75 ton vessels at the present day in 14 days. If I could only do now what I did then I should make a rapid fortune.

1994. I imagine you have more to say about the falling off in the size of plaice than with regard to soles?—No, I think I have as much to say about soles as plaice. I will give you an instance

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[Continued.]

Mr. Marjoribanks—continued.

instance about the value of plaice. I daresay I had some hundred of boxes to sell to-day by public auction. We have been selling plaice in Billingsgate Market this morning of *this* size (*producing sample*), and I daresay I have several unsold splendid quality, but it is the size. When I came away from the market I think we had some hundred or two boxes unsold; we could not sell them at 5s. and 6s. per trunk, but we had some out of the Red Cross fleet, which is working on the Dogger, which readily sold at 28s. a box. The number of fish in a box from the Red Cross fleet would not exceed three dozen or 40 fish, but these other fleets have from 100 to 400 or 500 in a box, showing the depopulation which is going on. Ask anyone what there is on one of these small fish. When you cut two inches off the head and two inches off the tail, there would be nothing left. I should like to mention this. Last year we had 130,803 tons sent to Billingsgate for the year. In the year 1887 we had 136,251 tons, and in 1888, 136,818 tons, showing a decrease last year and the three or four preceding years of something like 7,000 or 8,000 tons a year, and yet there is more catching power. That shows the difference in the catch of a vessel of 30 tons in days gone by, and the catch of a vessel now, of 75 tons.

1995. I imagine your idea of restriction refers merely to flat fish, does it not?—I propose to deal with all kinds of fish. I propose to deal with about 20 different nets that are used in the capture of fish round this coast, and I wish to be questioned about them all, the trawl, the mackerel, the herring net, particularly from Scotland, where they are using a mesh of 44 meshes to the yard.

1996. Perhaps the best thing for you would be to hand us a statement?—I cannot, because all my statements I keep in my head from practical knowledge and experience. The seine net is one of the most destructive nets, and ought to be stopped by the Government.

1997. Will you give us the name of the net and the size of the mesh you would recommend without any comment at all?—I should like to speak upon what they capture, and the injury they do.

1998. You may do that afterwards; but give us the names of the nets and the size of the mesh you would recommend, and the size of the mesh now commonly used?—I will take the trawl net, the mackerel net, and the herring net.

1999. Take the trawl net first, and give us the size of mesh now used, and the size you recommend?—I would increase the size of the mesh of the trawl net, particularly in the cod end; I would not much interfere with the belly or uppers, but the cod end of the net I would increase from an inch to an inch and a half more than they are worked at the present time.

2000. Now take the mackerel net?—That I am almost satisfied with. It is 22 or 23 meshes to the yard on the Irish coast, and that on our own coast 24 to 28 meshes to the yard.

2001. Is that the mackerel drift net?—Yes.

2002. Now take the herring net?—Yes. I wish to speak upon these nets afterwards, you 0.93.

Mr. Marjoribanks—continued.

will understand. The herring net used at the present time is from 32 to 44 meshes to the yard.

2003. What size would you recommend?—I should recommend that 44 meshes be annulled and nothing smaller than 32 meshes to the yard should be used.

2004. But you tell it was from 32 to 44 now?—It is so; the 32 is a capital size, but I should recommend nothing smaller.

2005. Now give us the seine net?—The seine net is frequently used to 200 fathoms long and 10 fathoms deep, and there is also the stop seine which is 100 fathoms, with 36 to 48 meshes to the yard. Those I consider too small; they should be enlarged.

2006. How much?—I think the stop seine ought to be not more than 36 to 40 meshes to the yard. It is a destructive net. The amount of fish I have seen left on the beach to be washed away with the flood tide is enormous; it is a net that ought to be condemned. Then I wish to deal with the trammel. That is used in the shape of a wall, buoyed and anchored across the tide, one net working in the centre of other nets with 10 inch meshes, commonly called the brat net. Those are all right, but it is the net which they work in the shape of a wall between the other two nets which I object to, and, in my opinion, that ought to have a 3-inch mesh if used at all. Then the kiddle net is the net prohibited by Magna Charta. It is one of the most destructive nets used along the coast of England. It is used principally in Dorsetshire and thereabouts, and frequently it enclosed a lot of immature mackerel, which I have seen come into London not more than six or eight inches long.

2007. With regard to mackerel and herring, you would not say that there would be any diminution of their quantity owing to the destruction of immature mackerel or herring, would you. You would not say that there was any necessity to interfere with the capture of small mackerel or herring, on account of any reduction in their quantity on the coast?—I think there has been a great reduction. When I first went into Billingsgate Market, 40 years ago, I have had as many as 1,300 pads of mackerel in one day from Great Yarmouth, and I should not get 1,300 pads in 10 years now. I think that is something that wants speaking upon. Then there are the shrimp nets, with meshes running from half an inch to a quarter of an inch; I think they should be increased. In 1878 I sent to Buckland some soles from Gravesend, caught by the shrimpers there, three to six inches long, which were sold there at 6d. a basket, showing the amount of destruction these nets do. There is no doubt there is great room for improvement, and it is no new thing for these petitions to come before the House. From the time of Edward III. to the present time we have had continual applications made by fishermen. I can point to the 12 different monarchies, where the nets have been condemned by those monarchies, and where men have been fined at the rate of 10l. each, and their nets burnt and confiscated.

2008. But there has been no great diminution, according to your own account, in the number of fish during the last 10 years?—But what is the

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[Continued.]

Mr. Marjoribanks—continued.

the fact? If there is no difference in the quantity, there is considerable difference in the size. It is the size we are complaining of; not the quantity. We had better have half the quantity, and have proper food for people to eat, and not have it destroyed in this manner. I say it is a disgrace to the nation, and I, myself, am of opinion that there is a great deal to be done, and ought to be done about it. There is one special thing I should like to state as to the reason why so many of those small soles are caught. There are a certain class of vessels working round our coast with a ground-rope, which is at the bottom part of the net. That ground-rope those men are working with has about 2½ cwt. or 3 cwt. of chain loaded on to it in bights, and those bights go entirely into the sand, destroy the worm, destroys all the small shell-fish crustacea, and anything that the sole may be after, and turns all those poor little things into the net.

2009. How do you know these bights of the chain sink so deeply into the sand?—We know from experience. If they do not use them they do not get those fish.

2010. But I want to know how you know it?—We know this, that if they do not use them they do not get the fish, and hence we know by these men using them.

2011. By the time these bights of chain get into the ground, the ground-rope has passed over the fish, because these bights of chain are dragging behind the ground-rope, are they not?—Yes.

2012. Therefore they do not stir up the fish until after the ground-rope is passed, and therefore not till after the net is over them?—But they are attached to the net.

2013. I know they are, but they hang behind, and the bend of the ground-rope is a long way behind the beam; therefore, when the ground-rope has passed over a particular portion of ground, fish on that particular portion of the ground would not be caught in the net at all, would it?—But the ground-rope is several yards behind the beam.

2014. But your chain is behind the ground-rope?—It is just behind, but the beam is not.

2015. Then if the chain is behind the ground-rope, it cannot stir up fish to be caught in the net?—Yes, it would. We differ. The beam is some yards in front of the ground-rope, and if the fish have risen off the sand they must come up into the net.

2016. You have told me the effect of this chain is that it sinks deep into the ground?—No.

2017. You have told me in answer to a question that the mischief of this chain was that it dug into the ground and destroyed the worms in the ground. I must keep you to that point. You told me just now that the chain sunk into the ground and destroyed the worms in the ground, and that that was your objection to it?—It may sink just a trifle under the surface.

2018. But you told me it did do so; how do you know it does do so?—How could I as a practical man tell you that it sunk in; it would go probably under the surface.

2019. But you told me the objection to this

Mr. Marjoribanks—continued.

chain was that it destroyed the food of the fishes by destroying these worms?—So it does.

2020. You say it does then?—Well, it does not go in any depth.

2021. I was going to suggest that if it went any depth the vessel would be brought up as if at anchor, but you said it did so. It cannot do two things. It cannot go into the ground behind the ground-rope, and also stir up the fish so as to make them come into the net?—It is one of the most cruel things that can be used, because it turns up the surface, and under the surface is a small crustacea, the small fish and these worms.

2022. Is not the reason of using these chains on the ground-rope simply this, that they are added to the rope for the purpose of keeping the rope on the ground?—No.

2023. And so preventing the fish escaping under the net; is not that so?—No.

2024. Is it not the fact that if the ground rope of a trawl does not touch the ground, then the fish escape and are not caught at all?—I do not think so.

Mr. Mallock.

2025. I only want to know this, Mr. Jex; as to these alterations in the nets, would you make them uniform all round the coast?—Yes.

2026. You agree that legislation should apply everywhere equally?—Yes.

2027. Have you any steam trawlers in your fleet?—Not that I solely own. I am only part owner of the Hull Steam Fishery and Ice Company.

2028. Do you think they do any more damage, except that they catch more?—I think they do.

2029. Over and above the fact of their catching more?—I think their destroying power would be fully three times that of an ordinary smack.

2030. Taking that sole of between seven and eight inches, if that was a sole from the south coast it would have more food on it, would it not?—I do not think so. I have plenty from that coast.

2031. Then you do not agree with the evidence that has been given, do you?—No. I do not believe men who come here to tell a tale for their own benefit. I come here to speak on behalf of the public and the fishermen alike.

2032. Then you do not think the soles from the south coast are really better fish, do you?—No. Soles are so migratory, from the Cape of Good Hope to the Baltic.

2033. And you think there is no difference between the quality or value of an 8-inch fish, because one is caught in the North Sea and one in the Channel?—No. I had five of my own vessels working round Milford two or three years ago, and I did not see any difference except that there were larger soles there; but they are getting thinned out.

2034. You talked about a decrease in fish; do you think that applies to all the way round the coast?—I think so. Not in number; the number has increased considerably, but the size of the fish has so decreased; the number has increased, but

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[Continued.]

Mr. Mallock—continued.

but the size has diminished. We have had thousands of boxes of these immature fish, but so few of the matured fish.

2035. Do you think the limitation of the size would not do?—I do not think so. I always have thought and always considered ever since I was a boy at sea, that if the mesh of net was made suitable for these things to escape, they would do so to be caught when matured; it would act as a close time or a limit, and they might fish on the land almost if the net was big enough to allow them to escape.

Dr. Tanner.

2036. I understand you are against steam trawling, are you not?—No. I do not think it is of any

Dr. Tanner—continued.

earthly use, it being an open and free sea for anybody. I do not think it is any use objecting to them. They have three times the power of a sailing trawler; still I can agree with this, that they do at times disturb the ground when a sailing trawler could not do so. A man with steam can work, backwards and forwards over the ground, whereas a sailing trawler is bound to go fore and aft with the wind. The steam trawler can work any way, backward and forward and over and over the ground. I think I might say there is no doubt they have done a great deal of harm, but I am of opinion that if the English or Scotch people do not work steam trawlers, the Germans, or the Dutch, or the Belgians would.

Tuesday, 16th May 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Mr. Heneage.

Major Jones.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Robert Price.
Sir Albert Rollit.

MR. MARJORIBANKS IN THE CHAIR.

Mr. JOHN FELL, called in ; and Examined.

Chairman.

2037. You are, I believe, chairman of the Lancashire Sea Fisheries District Committee?—Yes.

2038. How long has that committee been instituted?—It was instituted in 1890.

2039. What area does it comprise?—It comprises the whole of the area within the territorial limit on the north from Haverig Point, on the south coast of Cumberland, to Hilbre Island, and a line drawn to the north point of the estuary of the Dee.

2040. What are the fisheries principally carried on on your coast?—The fisheries carried on on our coast are very largely flat-fish fisheries, shrimping, and shell fish.

2041. What class of flat fish principally do you catch?—Principally plaice, white flukes, soles, dabs, and fish of that kind. Of course there are a considerable amount of codling at times, and a certain amount of mackerel and herring, but those are very irregular. In the south part of the district, below the Mersey, there is a considerable area of ground which soles frequent.

2042. The south of Formby, you mean, I suppose, do you not?—Yes.

2043. Can you tell me at all whether any diminution in the amount of fish found in your district has been noticed?—Yes; enormous.

2044. Since when has that been?—There has been a gradual diminution in progress. If the Committee would accept the evidence prior to the institution of the sea fisheries district in Lancashire, I was a member of the Lancashire County Council, and suggested this matter. We thought it well to hold a preliminary inquiry; all the fishing centres of the district; and the notes of that inquiry have all been embodied in a report form. The fishermen then were instructed to some extent as to the object of the inquiry, but I think I may say that they opened their hearts, and told us the whole story of their experience of the fisheries; and if the Committee would allow me

Chairman—continued.

to hand a copy of the report of that inquiry to them, I should be glad to do so. I have a copy with me, which would, perhaps, be of service. You will learn from the evidence given on that inquiry how much the sea fish of the coast have been steadily diminishing, and the shell fish also. We have the superintendent of our fisheries here, who is much more practical than I am, and he will be able to give you that evidence much more accurately than I can.

2045. To what do you attribute this diminution in the fish?—To over-fishing, without any regulations. Any type of instrument was used that suited the fishermen; there were no regulations of any kind.

2046. The use of what particular instrument, do you think, has been most prejudicial?—Are you speaking now of flat fish?

2047. Yes?—I should think the shrimp trawl.

2048. Are your shrimp trawls worked from a boat, or by a horse?—Principally from a boat. There is shrimp trawling by no less than 50 carts working shrimp nets along the coast; but there are also 360 boats shrimp fishing on the coast, and the estimated value of these fisheries is fully 50,000*l.* per annum.

2049. Do you find in the catches of these shrimpers numbers of small flat fish?—An enormous number; something incredible. Since we enlarged the mesh of the shrimp trawl net, and impressed upon the fishermen the terrible destruction they are creating, they are taking more care.

2050. Would it not be the fact, that if the mesh of the shrimp trawl were sufficiently enlarged to allow the escape of small flat fish, it would not hold the shrimps?—That is perfectly true. It is inevitable, I am afraid, that the shrimp trawl must capture the small flat fish. I think that is inevitable, but the question is, whether regulations could not be applied to the handling of the immature fish when they are taken into the boat. Mr. Dawson, the superintendent, will give you the history of some interesting experiments

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Mr. FELL.

[Continued.]

Chairman—continued.

ments as to the vitality of these young fish. We have been trying experiments as to that, and there is little doubt that, with ordinary care and adequate regulations, the lives of these fish might be saved to a great extent. There is no doubt they live for a very long time, and it only requires care and a proper instrument for sorting; but the shrimp trawl cannot be extended in mesh beyond a certain point.

2051. Besides these shrimp trawls, are there any other fishing engines which you think would be detrimental to your fisheries?—There was no regulation of any kind applicable to trawling. And there was an enormous amount of trawling for flat fish which was done by instruments, at the will of our fishermen. We have now established for those trawls a 7-inch mesh, 1½ inches from knot to knot, and the 7-inch mesh will only capture a plaice or a flounder or a dab of a reasonable size.

2052. Do you find your 7-inch mesh trawl does allow the escape of the smaller flat fish?—Yes; we can give you most accurate particulars of a long series of experiments which have been recently tried.

2053. Do you wish to give those results, or do you wish Mr. Dawson to do so?—They have all been embodied in print, and they can be handed to the Committee to retain.

Colonel Cotton-Jodrell.

2054. Are those the experiments mentioned in this report?—Yes.

Chairman.

2055. What other regulations besides the regulation as to size of mesh have you made in your district?—We have made some regulations as to a close time for shell fish, such as mussels. I have a copy of the bye-laws here.

2056. Have you made any regulations with regard to the capture or sale of either flat fish or round fish?—We have had no power. We attempted in our first bye-laws to regulate that under the Sea Fisheries Act of 1888, and we hoped to have been able to do so; but when the bye-laws came to be settled finally by the Board of Trade they held there was no power. We had the opinion of counsel, who took the opposite view and held that there was power, and the result is that we had no means of regulating the size of the fish taken.

2057. May I ask whether you find any difficulty in enforcing any regulations which you have adopted?—No; I think the fishermen are coming gradually to accept them, and they are beginning to find that they are not so disadvantageous as they expected they would be. But there has been a good deal of agitation.

2058. There has been a good deal of friction between the fishermen and the committee, has there?—Yes, we have had prosecutions.

2059. Have these prosecutions been successful?—In a very large number of instances they have.

2060. Have you got penalties imposed?—Yes, the magistrates have imposed penalties.

2061. What persons do you employ to enforce your regulations?—We have a superintendent
0.93.

Chairman—continued.

and, I think, six bailiffs, apart from the other staff which we have. We have a steamer also.

2062. Shall I be overstating it when I say that your committee has really established a sort of maritime police?—No, they have an efficient maritime police. But that could only be done in the case of a county like Lancashire.

2063. Why could not another county do what you have done?—Because the cost would be so heavy. We find that the case now. We are most anxious to extend our district.

2064. Let me go a little bit more into that. You have, I understand, a superintendent and six bailiffs under him, have you not?—Yes.

2065. And they have a steamer, have they?—Yes.

2066. What sized steamer is that?—I think 100 tons.

2067. What speed has she?—About 10 knots.

2068. Have you any smaller vessels; any steam launch?—No. There is one considerable sized sailing boat in the Mersey which the bailiffs take and use off the banks of the Mersey. Then we have three others stationed at different points of the coast; but they are boats which either row or sail; they are for inshore purposes, practically. They cannot keep the sea.

2069. How far does your steamer go to sea?—She travels along the whole coast at any time, and can keep the sea. In the first instance we purchased a steamer, and she did not prove satisfactory and seaworthy. The coast is a very rough coast, and there is a very heavy sea off it, and she was not a sufficiently good sea vessel, and therefore we have recently built a new vessel of the steam trawl class, which will keep the sea under any circumstances, at a cost of about 4,000*l*.

2070. That was a capital expenditure on this steamer, was it?—We had no power to deal with it as a capital expenditure; we had to deal with it out of our rates. We had to assess our assessable area at a rather higher rate of assessment in order to deal with the expense of this steamer.

2071. Have you found any complaints from the inland ratepayers to this assessment to deal with the fisheries?—Not so far in Lancashire; but perhaps it will be well for me to explain that a fortieth of a penny in the pound on our rateable area produces over 2,000*l*. a year.

2072. Can you tell me what is the annual expense of your police or bailiff system?—I have a statement here showing the expenditure on the bailiffs, the steamer, and the superintendent; and all that expenditure you may put roughly at 1,500*l*. a year.

2073. That is the cost of the upkeep, is it?—Yes.

2074. In the first year, 1891, I understand, you purchased this steamer, did you not?—No, only quite recently. We had to sell the steamer which we originally purchased, and have had to substitute a sea-going vessel which will keep the sea. Then, in addition to the 1,500*l*. a year, there are some other expenses. We attempted a series of scientific investigations.

2075. I want to keep the police expenditure
M 2 separate.

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Mr. FELL.

[Continued.]

Chairman—continued.

separate. Have you, like the north-eastern district, made any regulations prohibiting trawling within the three-mile limit?—We have in this way: we have limited the length of trawl beam which can be used.

2076. To what?—Thirty feet was the original length in the bye-laws, but we are proposing in revised bye-laws to modify that to some extent, and to vary the length of beam, but not to exceed the 30 feet. That length excludes the deep-sea trawler, and at the same time it does not prevent the ordinary coasting small boats, inshore boats, from going out to trawl.

2077. Do you find any small steamers in your district using these 30-foot trawls?—No; nor do the ordinary sailing deep-sea trawlers.

2078. Could you prevent a small steamer using a 30-foot trawl, if you chose?—I do not think we could legally do so under our bye-laws. Anyone who complied with the length of the trawl beam and size of the mesh, I do not think we could, under our bye-laws, prevent.

2079. The question of steam trawling, then, does not arise within your district, does it?—It has not done, so far.

2080. You said that you found that your committee had not sufficient powers to deal satisfactorily with the fisheries within your district; will you tell me what further powers you would suggest should be given to you?—One of the powers we should wish very much to have would be to regulate the capture of undersized fish, but that can only be accomplished by provisions as to the instruments of capture.

2081. Would you then be in favour of fixing a size below which certain fish should not be captured, or would you only apply it to the sale and exposure for sale, and the landing of such fish?—So far as I have been able to form an opinion, I think it would be extremely difficult to absolutely prevent the capture, because anyone who sees a net down is aware that you cannot avoid capturing, but it would be most desirable, I think, to prevent the sale of fish under a certain size. Then no doubt, if that were so, when a trawl net is lifted there would be no interest in keeping the smaller fish, and a considerable number of the smaller fish at times, at all events, are alive, and might be thrown over into the sea; but a certain amount must be wasted, inevitably.

2082. Have you formed any opinion as to the size below which it would not be desirable to catch these fish?—At the last meeting of the Joint Committee of the Lancashire Sea Fisheries, of the 25th February, we had three memorials presented, which I will hand to the Committee, from the fish salesmen of Lancashire. These three memorials vary a little as to the size. Would it be tedious to you for me to read them?

2083. Cannot you give us the general purport of them?—Yes; in Liverpool they propose that soles should be sold at not less than nine inches long.

2084. What do they say as to plaice?—Plaice, 10 inches.

2085. Do they say anything about turbot?—Yes; turbot, 14 inches; cod, 15 inches; whiting, 12 inches; lemon soles, 10 inches; and witch soles, 10 inches. The Manchester fish salesman and

Chairman—continued.

other fish salesmen of Lancashire, whose memorials are also here with their names to them, recommend something larger than that.

2086. Will you give us the figures for the same kind of fish?—The Manchester fish salesmen propose plaice, 12 inches; soles, 12 inches; lemon soles, 12 inches; whiting, 12 inches; cod, 15 inches; dabs, 8 inches; flukes, 10 inches; haddock, 13 inches; ray, 20 inches; turbot, 19 inches; brill, 15 inches; witch sole, 12 inches; and the other fish salesmen of Lancashire hold practically the same views.

2087. Are there any other powers which you would like to possess, or which you think you could exercise usefully?—We should like very much to have the power of occasionally limiting the areas of the ground fished for shell fish. I might tell the Committee that the shell fish taken on the Lancashire coast amount to about 10,000 tons annually.

2088. What sort are they, principally?—Principally cockles, but mussels are also taken in considerable quantities.

2089. Are your mussels used very largely for food?—Very largely. We wish to have the power also to regulate the sizes of these fish taken, both cockles and mussels. It is very important that mussels should not be taken so small as they are, and cockles also. Enormous waste goes on in both types of shell fish, and the fish salesmen inform me that great quantities of these fish are sent to them which are not worth the carriage, and are practically unsaleable.

2090. Then, with regard to the shell fish, you wish both to have the power of limiting the size under which they should be taken or exposed for sale, and also from time to time to be able to prohibit certain areas?—Yes, in order to allow the fish to recover and restock themselves.

2091. In order to apply to these beds a sort of system of rotation?—Just so.

Commander Bethell.

2092. Have not the Sea Fisheries Committee got that power now with the three-mile limit?—No, not without the consent of the Board of Trade, and not without an Order. I am hardly able to explain to you that point, but an Order is required, I think. We have been contemplating one of these Orders in order to give us the power to deal with this matter, but it has been postponed for reasons connected with the alteration of the area of our district. Such an Order can, through the instrumentality of the Board of Trade, be obtained; but it does not exist, I think, under the Sea Fisheries Regulation Act, nor have we the power to make bye-laws to regulate the size of fish or limit areas.

2093. I thought it came within the law of 1888?—No.

Chairman.

2094. I suppose I had better ask Mr. Dawson for any statistics with regard to the falling off of capture?—Yes. Might I say that we have applied strict regulations to the stake-net fisheries. In very large estuaries like Morecambe Bay, and the estuary which separates Lancashire from Cumberland, there has been a great amount of stake-

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Chairman—continued.

stake-net fishing. We have not only limited the size of the mesh in those districts, but we have applied strict regulations to the modes of setting those nets.

2095. What are the principal fish you catch in them?—Principally flat fish, but in some of those places they catch a large amount of round fish, such as codlings, and mackerel, and other fish. Those nearer the sea catch a considerable quantity of round fish.

2096. Do you expect that as time goes on you will get the fishermen to assent cordially to your regulations?—I quite think so. It takes some years, as I understand the question, before the result can be proved; but as far as I am able to form an opinion, I do not think the fishermen have suffered at all by the restrictions. They complain, of course, as all that class of men do complain, but I do not think they have suffered by the restrictions, and there are a great many of them beginning to feel the benefit. For instance, take the great increase of mussels alone; owing to close time, and the increase of flat fish showing itself, they begin to think these regulations will produce an excellent result.

2097. And if they have been injured, it has been rather in sentiment than in fact?—Yes, rather in sentiment than in fact.

2098. Is there any other point which you wish to speak to?—There is no other point which, I think, I could usefully inform the Committee about, except what seems to me a very difficult question, and that is this: Of course in Lancashire we are in a very peculiar position as to our power to deal with the expenditure upon sea fisheries. We have obtained the assent of the whole of the county and county boroughs of Lancashire, also of Cheshire and Cumberland to contribute, but no other district that I can imagine would be quite in the same condition. It has seemed to me that sooner or later it will be found that the maritime counties should not alone bear this expenditure, and that there should be some grouping of counties to in some way deal with expenditure on sea fisheries.

2099. I understand that, speaking generally for the whole country, you think that Lancashire has set a good example in this respect, which it is desirable all other counties should follow?—Yes.

Mr. Heneage.

2100. Do you see any reason why the east coast fisheries should not form a group of counties, consisting of Yorkshire, Lincolnshire, and other counties on that coast, with the same powers you have been using yourselves?—On the whole I believe in large areas for the sea fishery districts.

2101. Have you had any communications with the East Coast Fisheries Committees with regard to the powers you have been using or the extra powers you would like to have?—None, except at the conferences. There have been annual conferences where the members of sea fisheries committees have met, and except at those conferences I have not interchanged any views with the members of the other districts.

2102. Is there any unanimity between you and them with regard to these points?—I believe

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Mr. Heneage—continued.

their bye-laws are very analogous to ours, they are desirous, like ourselves, to keep the deep sea trawler and the steam trawler out of the territorial limits; but I saw the other day, in connection with the Northumberland district I think it was, that they were lamenting their inability to incur the cost of a steamer, and that they could not carry out effectually the protection of their sea coast without this steamer. Therefore a combination of districts would be of great advantage, because a steamer can travel over a very large area.

2103. I think your board is the only board on that coast, is it not?—Yes, but there are the Welsh districts, the Carnarvon district.

2104. That is a small district, is it not?—No, it covers a large area of coast, I think.

2105. There are three boards on the east coast, are there not?—Yes.

Sir Albert Rollit.

2106. You spoke of the territorial limits as to steam trawling. Do I understand you to suggest that steam trawling should be prohibited within those limits?—Yes.

2107. And only within those limits so far as your suggestion is concerned?—I should prohibit the whole of the deep sea fishing trawlers within the territorial limits.

Dr. Clark.

2108. But you also said you were in favour of closing certain portions of the coast and limiting the trawling, I believe?—That was only with regard to shell fish. We have an area on our coast which, through the sanction of the Board of Trade, is absolutely, at this moment, a nursery. We have an area of about four miles in length of coast line, and extending to the territorial limit, in which no fishing is at present allowed, except fishing by line, and we are trying the experiment to see whether in this preserve any marked increase of fish will arise. Mr. Dawson will be able to give you very accurate results as to his observations upon that particular part.

Mr. Mallock.

2109. You can, I understand, prevent trawling within the three-mile limit; you have power, have you not, if you can enforce it?—We have no power except as to the limitation of the beam. We have no power to say anything to the deep sea trawler, or the steam trawler, if they choose to adopt our meshes and the length of beam. He can do what he likes within the territorial limits.

2110. You could make bye-laws with the approval of the Board of Trade, could you not?—I think we should have great difficulty.

2111. Is there any dissatisfaction about the election of your Sea Fisheries Committee. Are the fishermen satisfied with the nomination of the Board of Trade and the way in which they are selected generally?—We have not found any objection. Of course there has been the question of the expenses of fishermen attending, which I think it would be very fair to meet.

2112. I am speaking of the actual election and the persons who are chosen?—No. I think

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[Continued.]

Mr. Mallock—continued.

the selection of the Board of Trade on the whole has been very satisfactory on our coast, and that we have always had a fair representation of fishing interests selected by the Board of Trade at the meetings of the committee.

2113. Is there a desire that the expenses of the fishery members should be paid?—Yes, I think so. We have broken our district into three sections, the northern, southern, and middle sections, and to those sections have been delegated considerable power for the purpose of convenience in meeting and working when minor questions arise.

2114. Do you know if the boroughs which send representatives to your Fishery Committee, pay their expenses?—I cannot answer that; I do not know. I think they do, but I am not quite certain about that.

2115. Do you know that they have power to do so?—Yes, probably they have.

Colonel Cotton-Jodrell.

2116. You have spoken to the great diminution in fish altogether; what kind of fish do you particularly allude to?—The flat fish very largely. The evidence given to me a few years ago by the fishermen was, that there was an extraordinary diminution in the number of plaice and other flat fish.

2117. Has there been a great diminution in soles?—The sole question is one I do not know so much about, except that there are not many soles in Lancashire, save as to a particular area. There is a particular area which lies to the south of the Mersey, or in the neighbourhood of the Mersey, where there is a ground on to which soles come at a particular time of year. As to that again, Mr. Dawson will speak with more certainty than I can. The soles captured, I think, undoubtedly are much too small.

2118. The size of the mesh has been rather a burning question, has it not?—It has for the capture of soles.

2119. For the capture of soles only?—Yes, for the capture of soles only. The whole district is absolutely satisfied, as far as I can learn, with the 7-inch mesh, except that particular portion of it where for a time of the year soles come, and then there is a dissatisfaction that they cannot catch them quite as small as they did.

2120. Is that the rich sole-ground you were speaking of a minute ago?—It is the particular sole-ground, and I believe a considerable number of soles come upon that ground at a particular time of the year.

2121. We have had evidence given that the size of the mesh, which might be suitable for catching saleable plaice, would be too large for the sole?—I could not there again tell you accurately the size of sole which would be allowed to escape, but I think you would probably capture a half-pound sole with the 7-inch mesh.

2122. We have had it in evidence from a witness on the east coast who is a smack owner and a practical man, that the mesh that would stop a 9-inch plaice would let a 15-inch sole of nearly a pound and a quarter, or a pound and a half go through. What do you say as to that?

Colonel Cotton-Jodrell—continued.

—There may have been such an experience, but I should distrust the statement.

2123. Has the 7-inch mesh now been finally adopted?—An inquiry was held at Hoylake by Mr. Fryer, and Mr. Fryer suggested the adoption of a 6-inch mesh for three months in the year, and in our revised bye-laws we have submitted that idea to the Board of Trade. For three months also, I think from the 1st of August to the 15th of October, we have proposed that a 6-inch mesh should be used, but we have had very great difficulty with reference to it.

2124. It involves keeping up two nets, does it not?—Yes; the difficulty is the complaint of the other part of the district. If you allow one part of the district to catch much smaller fish than the other part, they say, "Why should not we use a 6-inch mesh in the northern part of the district, if the southern part of the district has a 6-inch mesh." However, we propose to comply with the recommendation of the Board of Trade, or with Mr. Fryers' recommendation, but it is a matter surrounded with difficulties.

2125. You spoke of your having divided your forces into three stations. What is the southernmost station?—I suppose Liverpool. The Cheshire portion comes into it, and, I think, Birkenhead.

2126. Where do the Committee sit?—At Liverpool.

2127. So that the Cheshire fishermen have not to go to Preston, have they?—We have four statutory meetings of the Joint Committee. We have members of the Committee who come from Cumberland; we have, of course, members of the county boroughs of Lancashire; also representatives from Cheshire, Birkenhead, Stockport and so on; and Preston on the whole is the most convenient centre, and we have four quarterly meetings which we are bound under our Order to hold, and that implies the attendance of the whole of the members at those quarterly meetings, which are held at Preston.

2128. What meetings take place at the other places?—Any meetings affecting the local interests of the Mersey or Dee, or questions arising in connection with that. The Southern Committee is then summoned together. Take any prosecution, or any local question which might arise, and these committees have full power to act, so that it is not necessary to go on every occasion connected with the business of the sea fisheries to Preston.

2129. All questions connected with the fishing at the mouth of the Mersey, would be submitted to the committee at Liverpool, I suppose?—Nothing which would affect the alteration of bye-laws, but local questions would.

2130. There were one or two points as to the length of beam, were there not, which were the subject of that inquiry you alluded to?—Yes.

2131. You fixed the beam at 30 feet, did you not?—Yes.

2132. There are two classes of trawler, the large trawler and the one called the nobby-man?—Yes.

2133. The 30-feet beam was fixed at that length to prevent large trawlers coming into the three-mile limit, was it not?—Yes.

2134. And

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Colonel Cotton-Jodrell—continued.

2134. And, on the other hand, the nobby-man cannot go out to sea so much, can he?—Of course the smaller class of boats cannot keep the sea. They have to run in if bad weather comes.

2135. Then, keeping the large trawlers from the three-mile limit does prevent the capture of undersized fish very much, does it not?—It helps very much the preservation of our district in our opinion. They would simply sweep up the whole of the fish which are coming into the district and improving in size and condition.

2136. Are you able to point now to any present improvement?—The actual operation of the bye-laws has not lasted for more than about 15 months or 18 months, so that we are hardly in a position to say; but Mr. Dawson will be able to tell you what he has observed, because he has been accurately observing the possibilities of improvement.

2137. Can you tell me why the length of 30 feet was fixed upon. It is very much longer on the trawlers in other districts. In the North Sea, Plymouth, and Brixham, the trawls are all about 50 feet?—As far as my memory serves me, the 30 feet limit was fixed because it covered the maximum length of the trawl beam used by the smaller inshore trawlers, who simply come out with the tide and go back again. They do not always keep their trawls on the ground as the deep-sea trawlers do, and I think at that time it covered the maximum length of the trawl beam then in use, but it was much within the size of the trawl beam used by the deep-sea trawler, which is generally from 50 to 55 feet.

2138. Do you think it would be expedient to increase the three-mile limit, say to double it, or even more than double it?—Of course, that again would depend very much upon the soundings; you see it is a question of soundings, and I am afraid I am not practical enough to give you any reply of any value, but I think it will depend very much on the soundings. Off our coast, undoubtedly, it would be a great advantage, because the coast shelves in a most gradual way.

2139. Do you yourself share the opinion of most of the witnesses we have had before us that if regulations could be made prohibiting the landing and sale of these small-sized fish, that the fishermen would not capture them?—I think at the same time, if such a regulation were made it would be absolutely necessary that the instruments of capture should be regulated as nearly as possible to the capture of the size of fish which would be offered for sale. Without that, mere prohibition of sale would be of little value.

2140. Do you consider that the chief measures you would propose would be rules as to landing and sale, plus regulations as to size of mesh and length of beam and so on?—Yes.

Mr. Heneage.

2141. That is purely with regard to territorial waters, is it not?—No, external.

2142. But that would have to be a question for international agreement, would it not?—I quite agree.

2143. Trawlers that go outside the territorial

Colonel Cotton Jodrell.

waters now can have any sized mesh they please can they not?—Yes, but they use a very small one.

2144. If you extend the limit of the territorial waters you would at all events keep them still further out, where they would not be likely to meet with small fish, would you not?—That might be an advantage. Taking the coast line of Lancashire, no doubt the territorial limit only takes you into comparatively shallow water—five or six fathoms, I think.

2145. That is at the mouth of the Mersey, is it not?—Yes; I think so. Mr. Dawson can answer as to the depth of water at the territorial line, but I think it is about six fathoms.

Commander Bethell.

2146. Do you think the district committees ought to have power to prevent the sale of fish, or do you think it would be of any use if it were done by this Committee alone. Supposing you had it and exercised it, would not it handicap your own fishermen as against other people?—I think the regulations as to the size of the fish must apply to the whole country.

2147. I think, in answer to the Chairman, you suggested that the committees ought to have that power, did you not?—It was not intended in that sense. I mentioned shell fish.

2148. Shell fish would undoubtedly be different, would it not?—Yes.

2149. Shell fish are not sent to a distance as other fish are?—No. Supposing it were possible for the Lancashire committee to limit the size of saleable fish within their district, Manchester, of course, might purchase fish elsewhere of a perfectly different size, and therefore to that extent people would be prejudiced. Therefore, I think any regulations as to the size of fish must be applicable to the whole country.

2150. Do you think that should apply to shell fish?—It would be very wise to make it so; the mussel, for instance.

2151. Mussels are sold locally mostly, are they not?—From my district they are sent to Yorkshire in large quantities; tons of shell fish are sent into Yorkshire and other districts.

2152. May I ask you whether the County Council has made any attempt to instruct the fishermen at all?—Yes.

2153. Has that been attended with any success, do you think?—The first effort made, I think, was probably too advanced. Professor Herdman, Professor of Biology at Liverpool, was employed; and I think his lectures, which were most admirable, were probably too scientific; but latterly they have had a lecturer in Lancashire, in my neighbourhood, where there are a number of fishermen, and they have derived great advantage from it; they have attended the lectures in numbers, and have derived great advantage from them, as he has illustrated the question as affecting them.

2154. You think then they have taken great interest in it, do you?—Yes; I am told, great interest.

2155. Talking about the territorial limit, I understand that you have not stopped trawling in your three-mile limit off your coast; and I understand

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Commander *Bethell*—continued.

understand you to say you do not think you would have power to do so. Do you suppose your district would be inclined to stop it?—Do you mean shrimping?

2156. No; I refer to trawling?—We have in-shore trawling within the territorial limit by boats which are limited as to the mesh and length of trawl beam.

2157. You do not think you have power, if you wanted to, to put a stop to it altogether?—I do not think we have.

2158. I think you must have, because in our fishery district we have. Do not you think it would be desirable?—With us it would prejudice a very large number of people. It is a very large industry. I think there are nearly 400 boats on the Lancashire coast, which either by shrimp trawling or flat fish trawling in the summer live; a very considerable population lives out of it.

2159. At any rate, as long as it is confined to boats which use these trawls, does it; it does not matter?—And the 7-inch mesh.

2160. Have your committee, on the whole, been satisfied with the effect of what we have called the maritime police?—Do you mean the coastguard?

2161. No; I mean your own bailiffs?—Yes; of course the bailiffs are beginning to understand their work much better than they did at first. We had to take the best persons we could get hold of, and they seem to be doing their work very thoroughly.

2162. I suppose a few prosecutions have a very considerable effect?—Yes; and I think the law is being understood.

Mr. *Buchanan*.

2163. Your regulations against trawling, I suppose, have prevented all the large trawlers coming in?—Yes.

2164. And you did that because of the destructive character of their fishing?—Yes; our coast is a great nursery of young fish.

2165. And the steam trawlers and large trawlers were found to be very destructive to that fish, were they?—Yes; they covered the whole ground, and swept it all over.

2166. Would you be in favour, if such power could be obtained, of extending that prohibition? I should.

2167. Beyond the territorial limits?—Yes.

Dr. *Clark*.

2168. In your fishing ground, are you principally confined to Lancashire fishers, and those from the Isle of Man, or have you people from the east coast?—We have almost entirely, I may say entirely, Lancashire fishers. We have a very large fleet of trawlers from Fleetwood, and a very large number from Liverpool. We have nobody, really, from a distance; the Isle of Man boats never come over to us. Our men are entirely Lancashire people.

2169. Then you have no foreigners at all fishing off your coast?—I think practically none. The estimated value of the total fish taken by Lancashire boats last year was 222,000*l*.

Dr. *Clark*—continued.

2170. You have a portion of your ground, you say, that you do not allow any trawlers at all to come on; I am not sure exactly where you said that portion was; is it near the mouth of the Mersey?—Off Blackpool.

2171. Is that what you call your special sole ground?—No.

2172. What special ground is that?—It is a piece of ground as to which application was made, at the outset of the formation of the fishery district, by persons to have some inclosed area with a view to experiments. An inquiry was held by an official of the Board of Trade, and, after hearing the evidence, this was considered to be the most likely piece of ground to try this experiment upon, by entirely closing it from all fishing except by hand lines.

2173. Is that outside the territorial limit?—No; it is within the territorial limit, from the coast line to the territorial limit. The effect of it we can hardly yet say; it is very difficult to say what the effect will be, but it is an experiment which we thought right to persevere in until it has been tested.

Major *Jones*.

2174. You told us, in speaking of shrimp trawling, that if the small flat fish were thrown overboard most of them would live?—Yes.

2175. Have you had any experience of experiments that will enable you to speak with confidence about that?—It is not a week ago since I went in the steamer which we have with a view to seeing a series of experiments tried. I went off for two days and saw experiments made with regard to the vitality of young flat fish. They were made in the first instance on the shrimping ground, where the fish were very small, and then they were made further out, both as to soles and plaice and other fish. I think I am not exaggerating when I say that many of the very young fish lived on the deck of the steamer from 20 minutes to half an hour. They were tested by occasionally having salt water thrown over them, and on the dry deck also; and I have no hesitation in saying, from what I saw (and it was a particularly hot day), that a shrimper lifting his trawl, which he does very frequently, could have no difficulty, assuming that the riddling process did not sort them all out, in taking the greater part of them out alive; assuming he was bound to do so by a bye-law.

2176. How often in point of time does he haul up his trawl?—That Mr. Dawson will answer better than I can, but it is pretty frequently. He lifts his trawl pretty frequently in shrimping, and each time he probably brings up many hundreds of young flat fish.

2177. What are the duties of this police boat?—To see that the law is carried out, to travel along the whole line of coast, and to see that the persons found fishing on the coast are using legal instruments, and also to see that the deep-sea trawler does not come within our limits, using a beam which would be illegal, or using a net which would be illegal. Without such a boat you could not possibly keep the deep-sea trawler out whenever the water is rough, which suits the deep-sea

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Major Jones—continued.

deep-sea trawler; they could come in and drag our coast line, and we should be absolutely helpless unless we had this vessel and the bailiffs.

2178. You have no regulation which they seek to enforce, having for its object the throwing overboard of small fish, have you?—No, we have none.

Mr. Robert Price.

2179. You told us there had been a great falling-off in the supply, particularly of flat fish; are there any Board of Trade figures or railway figures which you have, to show what the falling-off has been?—I think that could only be got at from the general evidence of the fishermen at the inquiry which was conducted in Lancashire.

2180. There are two ports on your district which do a large trade, Liverpool and Fleetwood, is not that so?—Yes; Liverpool and Fleetwood have a considerable number of trawlers. That, again, is a point upon which I am afraid I cannot answer your question to be of any value.

2181. Perhaps Mr. Dawson has those statistics?—The tonnage of fish landed from March 1892 to March 1893, at Fleetwood, was 5,270 tons.

2182. How divided?—That I could not state.

2183. It is rather important to find out what the diminution of flat fish has been as compared with the catching power?—These boats, of course, were working all outside the territorial limit, and, in the main, probably on the ground lying between the Isle of Man and even as far north as the Firth of Clyde.

2184. How long is a shrimper's trawl down as a rule?—That I am afraid is a question Mr. Dawson must answer.

Colonel Cotton-Jodrell.

2185. Are those returns to which you have alluded, Board of Trade returns?—No, these are returns which we have had prepared for ourselves. There are 70 sailing trawlers and 15 steam trawlers from Fleetwood, and the result from them was 5,270 tons.

2186. How do they arrive at the result?—I believe it is quite a simple thing as to the weight.

Sir Albert Rollit.

2187. Can you tell me the gross and net tonnage of those trawlers from Liverpool and Fleetwood on the average?—That I cannot tell you, but I should think the Fleetwood trawlers would average about 40 tons. They are smaller boats than the North Sea boats.

Mr. Robert Price.

2188. You gave an answer that in your opinion a North Sea witness was not correct when he said a mesh that would hold a 9-inch plaice would let out a 15-inch sole; but there is a considerable difference, is there not, in the structure of those fish?—Yes, I am quite aware of that. I have seen a sole captured, and there is no doubt a sole would go through a smaller mesh than a plaice would.

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Mr. Robert Price—continued.

2189. What did you say was the distance between knot and knot of the 7-inch mesh?—An inch and three-quarters.

2190. I thought you said an inch and a half?—No, a 6-inch mesh is an inch and a half from knot to knot.

2191. The minimum size you gave for the fish that you would have sold seems to be a good deal larger than we have heard of elsewhere; are the fish in your neighbourhood rather of the larger order?—No; the sizes which I have read from the documents which I handed to the Chairman were the sizes which were represented to us by the fish salesmen of Liverpool, of Manchester, and all the other parts of Lancashire, memorialising the Sea Fisheries Committee at their last meeting.

2192. What do the fishermen say about those sizes, do you know?—The fishermen, as far as my experience goes, think all is fish that comes to the net.

2193. And you think they would be unwilling to see any change, but you think they would be reconciled to it in time?—Yes; they think the sea is capable of yielding this harvest without its ever shrinking.

2194. You say you would like to have close areas, but that was principally, you said, with reference to shell fish?—Yes.

2195. But I understood you to say you would like it with reference to flat fish as well; do you mean only within the territorial limits?—Yes, within the territorial limits. We are trying an experiment now of that nature, and if it be successful, of course it will be reported upon and very fully considered.

2196. Do you think it would be any use trying to have a territorial area outside your restricted ground, say to the Isle of Man, for example?—No, not so far as that. The territorial limit a little extended, say, to the nine or ten-fathom limit, would be probably a great gain.

2197. A suggestion has been made that it would be useful to have a restricted area at a considerable distance from the coast in other parts; do you think it would be practicable to have a maritime police that could guard an area of that sort?—One of the suggestions Mr. Dawson will probably make to you, and which I think is the result of experience, is that on examining the spawning of fish recently, all the grounds being ransacked outside between Lancashire and the Isle of Man and investigated scientifically by us, we came to the conclusion that there was a large area of ground frequented by soles on which a very large amount of sole spawn is deposited. This is the time of year during which the great mass of these fish seem to gather on this ground, and no doubt it would be very desirable if such an area could, for say two months, be closed for the purpose of saving the sole.

2198. Do you think there would be any difficulty with the steam police-boat in keeping that area closed?—Of course Lancashire could not be asked to send at her own cost this vessel out to guard that ground.

2199. Do you think that that would have to be done as a national matter?—Yes.

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MR. ROBERT ARTHUR DAWSON called in ; and Examined.

Chairman.

2200. Have you charge of the business of the Lancashire Sea Fisheries Committee?—Yes.

2201. Have you also charge of a biological establishment?—No, I do a deal of work for it, but Dr. Herdman is in charge of that.

2202. But you are acquainted with the work which goes on in that establishment, are you not?—Yes, we do the work for it.

2203. How long have you been connected with the Lancashire Fisheries?—Two years last February.

2204. Before that time, had you any knowledge of the condition of the Lancashire Fisheries?—Yes, I have fished on that coast nearly all my life.

2205. As a matter of experiment, or as a matter of business?—Both. I spent ten years practically as a fisherman on the coast, going out day by day with the boats trawling and shrimping.

2206. Then do you feel yourself capable of speaking as to the condition of the fisheries, both now and at a period, say, 15 or 20 years ago?—Yes, more than that.

2207. Do you see a considerable difference in the catches of fish?—In soles a great difference.

2208. Is that a diminution of quality, of quantity?—Of quantity.

2209. Are there fewer soles landed now?—Yes, much fewer.

2210. Are the soles that are landed smaller, or do they maintain their size?—I cannot say that they are very much smaller.

2211. Has the price increased?—The price has increased, certainly.

2212. To what extent?—I remember about 25 years ago, when we could buy soles at 6d. or 7d. a pound. Now we find them sometimes up to 2s. Of course they vary a good deal, and are sometimes as low as 1s., but I have not known them under 1s. for some time.

2213. Have you any theory as to the reason for the diminution in the number of soles which you have noticed?—My opinion is, that it is owing to the sale of the undersized sole. There is a large market now for these slips, and we find that in the open markets regularly you can purchase soles from 8, 9, and 10 to a pound, and it is owing to that, I think, they have decreased, because the men have put smaller meshes in to catch these little soles.

2214. You mean soles from an ounce to two ounces a piece, do you?—Yes.

2215. What sort of length would that be?—A sole of two ounces would be between seven and eight inches long.

2216. Is there a ready market for these small fish?—There is. They are sold regularly in the Liverpool markets. I do not mean to say that they all come from our side of the coast; for instance, the other day a quantity came in from Lowestoft.

2217. Is your evidence then that there is a ready market in Lancashire for small flat fish?—There is of all sorts. The watering places also take a good deal of these little soles, and

Chairman—continued.

fishermen are in the habit of hawking them round to a great extent.

2218. Who are the consumers of these small fish principally?—At the watering places they go round to the lodging houses and sell them there. I cannot tell exactly who takes them in the larger markets. I should think the hotels a good many.

2219. Surely a sole of two ounces has hardly anything at all on it, has it?—Not very much, but still they are sold in large quantities.

2220. What would be the limit you would propose for various classes of flat fish below which they should not be taken?—I think the limit ought to be fixed at such a length as to allow of the majority of the fish the chance of spawning.

2221. But what is the limit you would propose?—The limit I should propose would be 12 inches for all flat fish. Of course it would not affect turbot as to spawning, but speaking of plaice, dabs, flounders, soles, and lemon soles, I should put that limit.

2222. Would you put the limit in length as 12 inches for dabs?—No, dabs you can have at a less size because they spawn under that size, only the difficulty would be this: you would have men with smaller mesh nets going for these small dabs and catching flat fish, which they would have to throw overboard.

2223. Is there any sale for dabs in your district?—Yes, but the price is not much.

2224. Do you think that the prohibition of the sale or landing of these fish would be sufficient to stop their being caught?—It would do it to a great extent, but unless all fish were legislated upon, it would not prevent the use of small mesh nets in territorial waters for taking round fish, and these nets would catch large quantities of small flat fish, which would have to be thrown overboard.

2225. What is your experience with regard to the proportion of flat fish that come up in the trawl alive in your district?—That depends on the length of the drag, and also on the amount of dirt and weed and weight that gets into the net. In shrimp nets the majority are alive and lively. In other nets whiting are to a great extent dead, but soles are the most lively for the simple reason that instead of lodging mostly in the cod end of a net they have a habit of getting into the pockets and escape the weight. They are also one of the most hardy fish we have.

2226. Do you find plaice mostly dead?—Plaice stand more than dabs do.

2227. Do you think it would be practicable for a trawler, not speaking of a shrimper, to throw these fish back into the sea after he has got them on to his deck?—A great number he could, but some of them of course would be dead.

2228. What proportion do you think?—That again depends entirely on the weight.

2229. Taking a rough average, what is the average length of the haul in your district?—The large trawlers trawl the tide, which taking off the time for hauling and getting ready again that

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means five hours or just under it. I should say that half of the flukes would not be worth throwing overboard, the other half certainly would live, and certainly 90 per cent. of the soles, if not more, would live.

Colonel Cotton-Jodrell.

2230. Ninety per cent. of the soles would live you say?—Yes.

Chairman.

2231. Do you think the fishermen would object to such a regulation being made?—Do you mean the stopping of the sale of undersized fish?

2232. Yes?—I should say it would entirely depend on the size fixed.

2233. Supposing a moderate and reasonable size was fixed, do you think the fishermen would object?—No, I do not think the majority of them would.

2234. Do you not think it would create any outcry?—Not if the sizes were fixed to suit them.

2235. You yourself suggested 12 inches for all flat fish, did you not?—Yes.

2236. Do you think that would be accepted by the fishermen of your district?—I do not think it would; they would grumble at that.

2237. Would 8 inches be accepted?—For soles?

2238. All round say?—Yes, I think 8 inches would be accepted.

2239. Do you think there is a considerable destruction under 8 inches now?—Yes, there is.

2240. In the ordinary trawler. I am putting shrimpers rather aside now?—The destruction among the shrimpers is principally of flat fish from 2 to 4 inches in length.

2241. Little ones about the size of a crown piece, I suppose?—Yes. For instance, in some drags of a shrimp trawl they would get as many as 6,000 undersized flat fish to five quarts of shrimps in an hour's drag.

2242. What happens to those small fish?—The men get rid of them; they do not want them really.

2243. Do they throw them back into the sea, or sell them, or what?—If they get them above 6 inches they sell them.

2244. I am speaking of the little ones?—They throw those away, but they leave them on the boat very often for a long period before putting them back.

2245. Do you think that any regulation would make them put them back?—It would be rather difficult to enforce, but it could be done. Of course you would have to board these boats and find them in the act of doing it, and that would be a difficult matter. The men at Morecombe are trying to do it on their own account, and put back these little fish.

2246. That is the co-operation of the men themselves would really be more effective than any law would be, would it not, if you could convince the men that they were doing a good thing for their own trade?—As far as regards the very small sizes, the unsaleable sizes, yes.

2247. I understand you have some statistics as to the vitality of these small fish, have you not? 0.93.

Chairman—continued.

—Yes, we have a large tub on board the steamer with which the hose-pipe is connected, so that there is a constant stream of fresh salt water going through it. We have tried experiments by putting a certain quantity of fish in the tub after hauling, and seeing how long they live, trying them for half an hour, or an hour, or longer, and also experiments by leaving them on deck for a time, and out of water for a time, and then putting them into a tank and noticing the condition they are in when put into the tank, and noticing the fish after being there about an hour.

2248. Can you give the Committee a general summary of your calculations?—Yes; the general summary is this: we find, if the fish are not crushed, the majority of them live, although when put into the tank in many cases they appear dead; still they recover their vitality.

2249. Would you consider it is very important that these small fish should be returned to the sea, and that it would really be of great service?—It would.

2250. Can you give us any statistics to show us what has been the falling off in the fisheries on the Lancashire coast?—I cannot give you any statistics as regards the fish landed. I can only give you what I have noticed myself. Of course we never took these statistics until just lately. The falling-off has been principally in soles and in plaice. The quantity of plaice has fallen off considerably; that is, taking the last 20 or 25 years, and the same thing with soles. There are great complaints in the district by the men, and it is the view of all those connected with the fisheries round the coast.

2251. Have you any other regulations to suggest as desirable beyond the prohibition of the sale and landing of these small fish?—Yes, but throwing them overboard ought to be one. There ought to be a power to enforce that.

2252. Do you think that ought to be a regulation enforced by law?—I do.

2253. Would not that require a great deal of police supervision?—It would, to carry it out in its entirety, but still the fact of its being law, and the fact of now and then putting the law in force would perhaps have a good effect.

2254. Are you in favour of any close seasons for fish being adopted?—For species of fish, do you mean?

2255. Yes; would you recommend close times?—Yes; certainly as regards soles. I am alluding now to the spawning time. We find our soles have deteriorated to such an extent on the west coast that I should say a prohibition of the taking of those soles during May and June would have a most beneficial effect, because it would take in most of the spawning time. At that time you find the majority of the soles on a ground where they spawn, that is gravelly ground; but at other times they come on to the muddy ground.

2256. Is it not the case that it is just during those months that the greatest number of soles are caught off your coast?—No, the principal time when soles are taken is from the end of June up to about the middle of October.

2257. Are those caught off Formby and that part of the coast?—Yes, the large trawlers from the Hoylake district, and also the smaller boats would

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not, I think, object much to the prohibition of sole catching there up to the beginning of July. In fact, at an inquiry we held at Liverpool, represented by many deep sea trawlers, it was said they would be satisfied with three months of the year for coming into the limits for these soles. The proposal now is for the Committee to allow it from the 1st of July to the 15th of October.

2258. To make that the open season you mean, do you not?—Yes, to allow them to catch soles with the 6-inch mesh.

2259. Can you give me any figures as to the number of fishing boats in your district?—Yes; we have shrimping boats, 360; deep sea trawlers out of the Mersey, 48; Fleetwood, 70; 8 steam trawlers out of Liverpool, and 15 out of Fleetwood.

Colonel Cotton-Jodrell.

2260. Forty-two out of the 48 come from Hoylake, do they not?—Thirty-seven I think. Of course these boats are often changing hands, and we cannot tell to a few; but that is the number I took a few months ago.

Chairman.

2261. Have those increased or diminished?—They have increased at Fleetwood, but I cannot say what they had at Hoylake years ago.

2262. What number of men do each of these boats carry?—The deep sea trawlers take five: four and a boy principally.

2263. Are they owned by companies or are they owned by the crews or individual fishermen?—The captain of the boat often has a share in it, but they are generally owned by private individuals for the most part. Sometimes the fish salesmen own some of them.

2264. I suppose they fish right away to the Isle of Man, do they not?—Yes, when they are outside they fish principally there, and some of them go down as far as Cardigan Bay, but I understand that last year the sole fishery there was a failure also.

2265. Is there any other point, particularly, that you wish to speak to?—I should like to mention something about the size of mesh regulating the size of fish. I have the report of some experiments which I will hand in. A trial was made with two boats of the same length of beam one having a 6-inch and the other a 7-inch mesh; the nets were let go at the same time, and hauled the same time, and four drags produced in the 6-inch mesh 665 fish, and in the 7-inch mesh 457. In the 6-inch mesh there were 332, that is just one less than half the fish were under a quarter of a pound in weight, whereas in the 7-inch mesh there were only 148 under a quarter of a pound. Again, in another trial, a 6-inch mesh took 205 fish under a quarter of a pound, and the 7-inch mesh only 82. In another drag the 6-inch mesh took 42 under a quarter of a pound, and the 7-inch mesh only 8. Then above our boundary line, near Fleetwood, in December last, the boats which were fishing out of our district with a very small mesh took about 20 score weight of small fish, while the boats with the 7-inch mesh only took from three to four score, fishing at the same time and place. In the latter case the fish were of good size, and in the former a

Chairman—continued.

great many of them had to be sold to the aquariums for feeding the birds and seals. Then as regards soles, after 13 drags, the 7-inch mesh took 79 soles, of which 13 only were under half-a-pound. Taking the whole trials we have had together we have come to the conclusion that the great majority of fish taken by the 7-inch mesh will be of the following sizes: soles three-quarter of a pound, flukes a quarter of a pound, and codling a pound weight. Of course, accidentally, there are a certain amount under that. But we find that the size of mesh does regulate the fish, and over and above that the fish are in a much livelier condition when they come up, because the weed and dirt, and weight of all sorts is far less in proportion with the larger mesh than with the smaller mesh.

2266. From your own personal experience and experiments you have made, have you come to the conclusion that it is very desirable that the mesh of a trawl net should be regulated, and that the size should be about seven inches?—I am speaking of plaice and flukes, not with regard to soles, with regard to the 7-inch mesh.

2267. Do you think it is too big for soles?—It would let a large majority of half-pound soles through, but it would keep the majority of three-quarters of a pound in.

2268. But you cannot absolutely regulate the size of your mesh to each size of fish you catch, because the men want to catch all sorts of fish together, do they not?—Yes, but speaking of territorial waters, the fish lie on different grounds. For instance, on the Cheshire grounds, the muddy beds at one time of the year are purely the sole grounds. When you get north again you come on to the sandy bottom, where it is purely plaice, with the exception of odd fish.

2269. What would be your proposal then with regard to the regulation of the mesh as far as your district is concerned?—For our district, I should propose that outside the sole time, the 7-inch mesh be adopted, and during the sole time, that the 6-inch mesh should be allowed for fish trawls.

2270. That is from the last day of June to the beginning of October, is it?—Yes, from the 1st of July to the 15th of October.

2271. In fact, for three months of the year you would have a 6-inch mesh, and for nine months of the year you would have a 7-inch mesh would you?—Yes, but I would limit the use of the large trawler to certain grounds. I think that the deep sea trawler need not come further north than Formby Point, because the principal sole grounds lie to the south of that.

2272. Then north of Formby Point you would recommend a 7-inch mesh all the year round; is that what you mean?—Yes, with the exception of the three months for small boats, but not for the large boats or stake nets.

2273. But is not your recommendation after all a very confusing one, to have this continual changing of the size of the mesh and shifting of the areas; it is a very difficult thing for the men to understand, is it not?—No, it is not, for this reason. The men need not shift the whole of their nets, or get entirely new nets. The body of the fish lie in what is called the cod ends and the pockets, and these are not dear portions of the

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the nets, but are the cheapest. They would only have to alter the lower ends of them.

2274. To put on a fresh cod end and fresh pockets you mean?—Yes.

2275. Is there any other point as to which you want to speak to?—There is the Act of 1888 I would like to say a word about. If a boat is fishing illegally in our district we can follow it into a neighbouring sea fishery district if there is one, or into a harbour or a salmon authority, but we cannot follow it and board it outside the three-mile limit; so that if the boat chooses, instead of going along the land, to go over the boundary of the limit, it is perfectly free. Under the Act of 1888 fishery officers had much larger powers and could board boats anywhere.

2276. As to that, what do you wish to say?—What I wish to say is that the Act should be altered, so that when boats are suspected of having committed any offence within the territorial limits, the fishery officers should have power to board them outside the line.

Colonel Cotton Jodrell.

2277. Whether they are in or outside the limit?—Whether they are in or outside the limit. That is if they have been committing any offence inside.

Mr. Robert Price.

2278. What you suggest, then, is an extension of the powers of the district boards, is it not?—An extension of the powers of the fishery officers to follow them.

Major Jones.

2279. You told us that 90 per cent. of immature soles thrown overboard would probably live?—Yes, that is our experience.

2280. Does that apply to plaice and lemon soles?—It does not apply as much to plaice as to soles, for the simple reason that soles have a habit of creeping up into the pockets when they get into the nets, and in the pockets there is not the same amount of dirt lodges as happens to be in the cod end of the net.

2281. What would be the percentage of life saved in your opinion in respect to plaice and the lemon soles?—I should say quite one-half would be saved.

2282. Is that on a five-hours drag?—Yes, on a five-hours drag, if the ground is clear. Of course there are many cases where it sometimes takes trawlers above an hour to get the cod end in, owing to the great weight of dirt and debris lodged in the net, and in those cases the majority of the fish would be killed.

2283. Have you exercised your mind at all with the view to arriving at some plan of encouragement or premium to the fishermen, and getting them to save the immature fish by throwing them overboard, instead of keeping them on the decks to die?—No, I cannot say that I have.

2284. You have thought of nothing, except compulsion?—Yes; I see what you mean now. I think that lectures, and putting before them the benefit of doing so, would have an effect on them; in fact, I think it has had a certain effect up to now, owing to the County Council of 0.93.

Major Jones—continued.

Lancashire having sent lecturers round to the different fishing stations. We sent a gentleman the other day, who not only lectured to the fishermen, but went out with them in their boats, and if that work was encouraged more, I think it would have a beneficial effect on the fishermen.

2285. Then do you think that organised education amongst the fishermen might do good?—Yes.

Dr. Clark.

2286. Do I understand you to say that you would prohibit the capture of any fish before they have spawned, and that you object to fish being captured before they spawn?—For the benefit of the fisheries. if you look at that alone, most decidedly.

2287. You have taken a certain size, and I understand that is based upon a principle that before that size they do not spawn?—Not; not in most cases.

2288. At what size do soles spawn?—The smallest size is, I think, 10½ inches for the males, and 12 inches for the females.

2289. Hence you suggest that the 12-inch limit should be taken, because they can spawn by that time?—It would allow a number of them to spawn. I do not suppose it would allow them all to spawn, because some do not become mature at that size. I am taking the lowest size.

2290. At what size do plaice spawn?—Plaice have been found spawning, the males I think, 10½ inches to 11½ inches, but not so very many at that size; they are generally larger. In fact, we have not found any so small this year. I think they are 12 or 13 inches this year. On the east coast the maturity, I think, the Scotch Fishery Board has put down as 15 inches.

2291. You say if they are not crushed they might live. What do you mean by "crushing"?—I mean that in some places you find the fish dead, owing to the weight of dirt and sand and seaweed crushing them.

2292. But is sand caught up and kept in the nets?—Yes; there is a good deal of sand in inshore trawling at times if they use small mesh nets.

2293. This seaweed and other dirt then crushes the fish against the net, does it?—Yes. And in the cod end you will have the whole weight of the fish, except the soles and a few others.

2294. And the pressure of the water and the fish against each other crushes them, does it?—I do not think it is the water so much, but it is the weight of the weed and dirt and shells very often which does the damage.

2295. You think there has been a considerable falling-off in soles and plaice, but you have no statistics to show the falling off, have you?—No. We have only just lately begun to take statistics; but it is an acknowledged fact that soles on the coast have, to a large extent, fallen off during the last 20 years.

2296. Might it not be that the procurement has increased so very much, and that there is therefore the same production?—I am speaking of the complaints made by the fishermen and the boat owners.

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2297. That

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Dr. Clark—continued.

2297. That is to say they are not catching so much as they used to?—No, not soles.

2298. Do you account for that by the over fishing of the district?—Yes.

2299. And the capture of the minature fish, how about that?—And capturing the quantities of minature fish and not allowing them an opportunity of spawning and reproducing.

Mr. Buchanan.

2300. With regard to your statements about the vitality of the fish that come up in the trawl, are they based upon observations of your own?—Yes.

2301. Over a series of years?—No, only lately. We have only lately begun to try the vitality in the way I am speaking of. I have noticed for years that in returning fish to the water they have swum away quite lively; but it is only just lately that we have begun to try these experiments in the tank.

2302. You cannot give us much evidence then from experience as to the state of vitality of fish brought up by a long trawl, can you?—Only by seeing them. I can speak as to noticing them myself, but we have not taken any record of it except just lately, in the number of hauls we have made during the last two or three months.

2303. When you say 90 per cent. would be alive, do you limit that only to soles?—Yes.

2304. With regard to other flat fish after a long trawl, what do you say?—I should say with regard to other flat fish, speaking of deep-sea trawlers, one-half would live if returned to the water, provided the ground is clear.

2305. Is that based upon observation?—That is based upon observation of my own, but not on records.

2306. What kind of ground trawling over?—Trawling over sand for flat fish and flukes, and the mud for soles, the ordinary fishing grounds off the Lancashire coast.

Colonel Cotton Jodrell.

2307. Are these experiments you have given us included in the report which you have handed to me?—No. I have several here, but we have several more that we have not printed, obtained since September last. These were taken in the earlier part of last year.

2308. Will you hand these in to the Committee?—Yes.

2309. With regard to shrimp trawling, in each instance you have given the quantity of under-sized fish, the description of take, the average size and weight of fish taken, their number and length, and so on. Do you mean to say that in the shrimp trawl you practically get no full-sized fish?—Perhaps in the particular case you are reading there is none, but in some taken lately we got a certain number, but not many. You do not get many of them; they are principally undersized fish which are taken in the shrimp trawl.

2310. As to these experiments in the estuary of the Mersey and the Dee estuary, were they all made at the time of year when you would not expect very large soles and plaice on those grounds?—I think there are one or two in

Colonel Cotton Jodrell—continued.

August, are there not?—There are some in the Dee in August, and there would be larger soles there then.

2311. Slightly larger, but not many?—There were not many taken in a shrimp trawl. You see in shrimp trawls we do not allow pockets or traps, and it is really the pockets that are the means of taking the sole to a large extent.

2312. Are these experiments undertaken to show the dearth of saleable fish in inshore waters?—No. These experiments were undertaken to find out what was on these particular grounds. There is a movement on foot, and an application has been made to extend the district in that direction.

2313. You mean in the estuary of the Dee, do you not?—Yes; and we wished to see what was on the ground at certain times of the year.

2314. I thought that was in the western district?—No, the western district stops at Carnarvonshire, I think?—There is no fishery district in Flintshire or Denbighshire.

2315. I see, according to the chart, there is an interval between the two where the estuary of the Dee comes in?—Yes.

2316. And that is under no jurisdiction today, except the Dee Conservancy Board, is it?—That is all: I believe that the Dee Conservancy Board have formed themselves into a Sea Fisheries Committee, but I do not think they have any bye-laws at all, except as regards the length of time at which mussels shall be taken, but there is no Fishery Committee either in Flintshire or Denbighshire.

2317. Might not a large number of these very small fish which you speak of in these observations be considered to be solenettes, fish which never grow large?—No, we do not include the solenette as food fish; they are not used as food fish; they are too small.

2318. They never grow large, do they?—No; the great number of the solenettes we get range from 3 to 4 inches; it is very seldom that we get them 5 inches long.

2319. Are they easily distinguished from other small flat fish?—Yes; the fishermen now in certain parts of the district are beginning to distinguish them. The scale of the solenette is very much larger than that of a sole of equal size; the colour is different in nearly all cases, and the principal mark which is easy for the fishermen to tell by, is that in the fin of the solenette we find a great number of black stripes or black portions, and in the sole there are none.

2320. Teaching them to distinguish between these different kinds of fish is rather an argument in favour of education, is it not?—Yes.

2321. As helping us in the fishery question?—Yes.

2322. I was asking Mr. Fell some questions which arose out of something which was asked by another member of the Committee as to these returns. Can you throw a little more light upon them, and tell us how they were collected?—Which returns do you allude to?

2323. The returns from the Liverpool market about the amount of fish landed?—They were taken

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taken from the official at Fleetwood, and also from the railway company as to the amount of fish landed at Fleetwood.

2324. Did you send down one of your own officials to make the inquiries?—Yes. There is a man there who takes notes of all the fish landed, and also I got returns from the manager of the railway company at Fleetwood.

2325. Did those returns agree?—Not altogether.

2326. Is the man you employed the man who is employed by the Board of Trade?—Yes, I believe he was.

2327. Do you know what was the method he adopted as different from that of the railway company?—I cannot tell you exactly how he makes the returns except that he is on the spot there, and he separates the fish I think a little more, but we have not got the difference of flat fish from him, we have only purely the weight of the wet fish.

2328. Which do you consider the more accurate, the Board of Trade or the railway company's return?—The Railway returns would be more accurate as regards the weight of fish sent off, but I cannot tell whether they include a certain proportion of ice in the returns, so I think the Board of Trade is more accurate as regards the weight of fish.

2329. We heard that some of these small slips are sold to lodging-house keepers at Blackpool and Southport. I suppose that would be so?—Yes, not so much at Blackpool as at Southport and Hoylake, and round the coast generally.

2330. Is there a demand like there is in London, in the fried-fish trade in Liverpool and Fleetwood?—It is springing up more than it used to be; but a great many of these small undersized fish taking the Liverpool district are also sold by the men who catch them who have little shops in the back streets of Liverpool and Birkenhead as well as those that are hawked round at Hoylake and New Brighton and other places. Of course there are quantities sold in the open market at Liverpool. In fact my attention has been called on one or two occasions by the fish salesmen to barrels of these small fish which have been landed and sent to the wholesale market.

2331. With regard to the size of the mesh and the length of the beam, I want to ask you this: the good sole ground is at the mouth of the Mersey during the months of July, August, and September, is it not?—Yes; it is on the south side, principally, of the Queen's Channel.

2332. You told us just now that you rather wanted to exclude the bigger classes of trawlers from these inshore waters, did you not?—No; what I said was, to exclude them coming within the limits higher up the coast.

2333. Does not that exclude them also from the good sole ground as well?—If you passed a general bye-law it would, but one of the suggested bye-laws which has passed the committee, and which is now before the Board of Trade, is to allow the large trawler to come within the limit for three and a-half months in the year.

2334. That is, with the 6-inch mesh?—Yes, the 6-inch mesh. What I said was that I thought that that ground over which these large trawlers

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Colonel Cotton Jodrell—continued.

are fishing, should be confined to the southern portion of the district.

2335. As to the length of beam, are you aware that the beam is very much shorter than that in use on other trawlers in other waters, in the North Sea, and the St. George's Channel, and so on?—Do you mean on the deep sea trawler?

2336. Yes?—We have beams on some of the big sea trawlers in our district of 52 feet and over that length, and the steam trawlers that we have are not using a very much longer beam.

2337. But you have got them down to 30 feet, have you not?—Yes; that is, within the limits under the old bye-law.

2338. But then you have this large fleet of trawlers from the port of Liverpool, which are all large boats, which used to have a 50-feet beam, I understand?—They have now.

2339. Then do not you propose to exclude them entirely from their own home and the best waters?—Under the first bye-laws they were excluded, but under the suggested bye-laws, which are now before the Board of Trade, so long as they comply with the regulations as to size of mesh, any length of beam would be allowed on that ground during a portion of the year.

2340. Then is not the argument used that these large boats cannot keep the short beam at the bottom?—No, they could do that. I think, Sir, you are misunderstanding me. The suggested bye-law does not limit the beam for those three and a-half months in the year.

2341. As to these trials which you mentioned just now, I suppose we shall find out in the document you have put in exactly the sorts of fish which the 6-inch and 7-inch mesh take?—Yes.

2342. I want to get at the reason of the sole being so much more active than the plaice. Can you give us any information upon that point?—The vitality experiments are not included in that document. Those trials were made prior to last September, and have been printed, but those made since have not been printed. The vitality experiments we have made have not yet been printed; we have only the rough copies of them.

2343. Is there much stake-net fishing in your district?—Yes, a great quantity.

2344. Have you any suggestions to offer as to how that should be regulated?—I think the stake nets should never be allowed to be set across any streams or channels, so as to allow fish a fair passage up at low water. They should never be entirely stopped from coming up or down, as used to be the case. We have now a bye-law in force which prohibits any stake-net being set near the centre of the stream at low water on a 16-foot tide, so that these nets cannot be set across the streams. We allow a passage for fish to go up and down; they are not entirely stopped. Also, I think the stake nets should always be cleared as soon after they come as dry as possible, so as not to allow any small fish to lie on the sands and die.

2345. What is your idea as to the remedy for the whole question in improving the sea fisheries?—I think the whole thing is to prohibit the possession of fish under a certain size. Of course, if you look at the benefit of the fisheries entirely, you would fix it at a size to allow them to reproduce,

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duce, but there is no doubt that the fishermen would, perhaps, strike against those large sizes. I am, however, quite certain that the whole question rests on the prohibition of the sale, and also in connection with the size of mesh in territorial waters. These fish spawn at distances from the shore, but on a coast such as we have, the moment they are hatched out they sink to the bottom, and seek the protection of the territorial waters and the sandy bottom. We find myriads of these little fish; in fact our district swarms with them.

2346. Principally flakes?—Yes, and round fish as well. There are great numbers of young whiting. I might point out that one of the great difficulties we have, and which really makes it very expensive to sea fisheries committees, is the inducement held out to fishermen, to take undersized fish because there is a market open for them. Any fish taken now accidentally they do not put back, and unless you have a number of officers you would have them using nets for the purpose of taking undersized fish.

2347. Then do you think, if you prohibited the landing and sale, the fishermen would gradually learn to throw them back into the water, in order to protect their own interests?—Yes, and over and above that, they would not use the small size mesh which they use at present, they would increase it. There is no doubt that the size of the mesh does riddle the size of the fish to a great extent. It does not do everything, but it does it to a certain extent, and it certainly prevents the taking of much matter which is detrimental to the vitality of sea fish.

Mr. Mallock.

2348. Has the aggregate amount of fish caught diminished do you think, or do you mean only in proportion to the number of boats. The boats have increased very largely, I suppose, within the period you speak of?—The number of boats have increased on our coast, but principally in the smaller class of boats for shrimping.

2349. Has the amount of fish caught increased too?—I could not tell you as to the whole weight. In rough fish, I do not think there has been any great falling off, but in prime fish there has.

2350. With regard to the Board of Trade returns, do you find that they correspond with the other returns that you get, as to the amount landed?—No, I do not, not altogether. To a great extent they do, but there is a difference.

2351. Is there a considerable difference?—Perhaps about 2,000 tons out of 10,000.

2352. That is 20 per cent. There is great advantage, I suppose, in having these returns accurate, is there not?—Yes. It is the only way you can get at the amount of fish caught, but the difficulty comes in here. One man may only take the amount that is sent up by rail, and another person who is perhaps taking the returns for the Board of Trade makes an allowance for the amount of fish which is carted in land and retailed, and does not go by the railway at all.

2353. Can you suggest any way in which these returns could be taken accurately. I do not want you to give a scheme now, but do you think that could be managed?—Yes, I have

Mr. Mallock—continued.

thought of no scheme, but I believe in America every fisherman is supplied with forms, and is bound to make a return.

2354. With regard to the size of the fish, you said that fishermen would not object to eight inches, I think?—I should say not, of course: I have not consulted them on the point.

2355. It would be useful at all events, would it, if that limit was adopted?—Yes, it would.

2356. You think it would be more useful if 12 inches were adopted, but you consider eight inches would be useful?—Yes, although I consider eight inches very much too small.

2357. But you think there would be some advantage in it?—Yes, there would be some, but I think it is a very small size.

2358. And you think the fisherman would not object to it?—No.

Sir Albert Rollit.

2359. I suppose the conditions of the North Sea fisheries are different to those of which you have been speaking?—Entirely.

2360. For instance, the soundings are double, are they not?—The West Coast is a shallow gradually shelving coast.

2361. In other words, your conditions resemble those upon the German and Danish coasts more, do they not?—I believe so, but I could not give any accurate information upon that.

2362. The conditions of capture are somewhat different in your case, are they not. What is the tonnage of your vessels you have been speaking of?—The deep sea sailing boats range from about 30 tons up to 50 tons register, and the steam trawlers are practically the same as they have on the east coast.

2363. Are they the same?—Yes, they come from the east coast.

2364. What is the tonnage of these steam trawlers fishing your waters?—Do you mean each individual boat?

2365. The average tonnage nett?—I cannot give you their register, I can give you their length. They are about 100 to 120 feet long, 20 feet beam, drawing 11 feet of water. They came from the east coast. We purchase now the deep sea sailing trawlers from the east coast.

2366. I understand your observations as to the size of the mesh to refer to territorial waters only?—No, they are not confined to territorial waters.

2367. I think you did limit it to that, did you not?—I think not; I did not mean to. I was speaking with regard to taking the undersized fish generally.

2368. Do you think the size of the mesh would exercise any material influence in the North Sea with an average six hours' haul and with a much greater quantity of *débris*, and so on?—It would, especially with soles.

2369. Do you still think that the size of mesh would be important?—I do indeed, most decidedly.

2370. Do you think that under those conditions, there would be any advantage in throwing fish overboard and that they would still live after the six hours' haul and a large weight in the

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Sir Albert Rollit—continued.

the net?—When you come to great weights, that, as I said before, crushes a great many fish.

2371. The depth of water and the pressure itself would, would it not?—I am not prepared to say anything about the greater depth of water, but I am certain that the increase in the size of mesh would be of the greatest benefit to the sole.

2372. Even in the North Sea?—Yes; anywhere.

2373. You say that a considerable quantity of this small fish has been brought from Lowestoft to your market?—Yes, I have seen it.

2374. You are aware, I believe, that the Lowestoft people opposed any limitation of size here, are you not?—I do not know.

2375. Do you think there is need of limitation in the case of Lowestoft?—Most decidedly.

2376. Am I to take it that your principle of limitation would be sexual maturity; is that what you would recommend?—Looking at the fisheries alone, certainly.

2377. But you think it would be impracticable, do you?—I think there would be difficulty in many cases, but not in all.

2378. For instance, what is the size of a sexually-matured sole; some 13 or 14 inches, is it not?—You will find them at less sizes than that. Twelve inches would allow a proportion of them to reproduce, but certainly not all.

2379. Would not there be the additional difficulty, if you take the principle of maturity, that that would vary in different localities; in southern waters, for instance, they would be sexually mature at a less size, would not they?—I believe that is so.

2380. Would that not complicate the prohibition?—Yes. Supposing you fixed the size at whatever it might be, it would preserve the mature soles in that district where they are of these sizes, and not at any place where they are larger.

2381. And that would add to the practical difficulty of applying that principle, would it not?—Yes.

2382. You said that eight inches would be acceptable generally; did you hear that Plymouth objected to eight inches?—No, I did not.

2383. I think, if I remember rightly, Mr. Little said they would accept the Belgian limit, which is 7½ inches?—Yes.

2384. Would 7½ inches be of any value, do you think?—I should say very little. I am speaking of the whole length of the fish, and eight inches, to my mind, is absurdly small for a sole.

2385. Then you think, do you, that the Belgian limitation of 7½ inches would be almost useless?—I should say it would be of very little good.

2386. As to what you said about close time, if you acted on the principle of close time, would you apply it in the case of soles only, or to different species?—I would apply it to soles only.

2387. Of course, in the case of the different species, you might have close times during the greater part of the year, might you not?—Yes. Of course, the principal spawning time of fish,

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Sir Albert Rollit—continued.

taking the whole species together, really ranges from January to the end of July.

2388. There are species which spawn as late as October and November, are there not?—Yes; although we find them spawning in April, and also at the beginning of July, still the bulk of soles spawn in May and June.

2389. Do you see difficulties in the practical application of the principle of maturity as governing the capture?—For all fish; yes, there is a difficulty.

2390. What you would recommend, as I understand, would be to remove the motive for capturing these small fish by preventing the sale and landing?—Yes.

2391. Do you think that would be effective?—I do, for the reason that the men not only would use larger meshes, so as to riddle the fish, but at the same time a most important point would be this, that they would not frequent those areas where, at certain times of the year, we find great quantities of small fish, and do not find very many large ones.

Chairman.

2392. You have studied the spawning of fish to some extent, I imagine, from your remarks?—Yes, by opening them and seeing the condition they are in. But, besides myself, there is an assistant to Dr. Herdman who goes regularly out with us in the steamer, who is a scientific man, and he does a good deal of the scientific work on board the steamer.

2393. What do you find to be the fact with regard to the spawn of most food fish; is the spawn laid on the bottom, or does it float on the water, or is it held in suspension?—In fine weather we find it floating on the top, if the sea is a little ruffled at a certain distance down, but in the majority of cases it is not on the bottom.

2394. With the exception of the herring and sprat, I suppose?—The herring is on the bottom.

2395. You say practically, do you, that in all food fish the spawn is held in suspension in the water?—It is, with the exception of herrings and mackerel.

2396. And therefore the old allegation against the trawl that it destroyed the spawn of fish is baseless?—It is, and I daresay one thing that has produced that opinion is that you do find spawn on trawl nets when they are lifted. For instance, the other day we found our trawl coming up covered with spawn, which the fishermen were inclined to think was spawn of food fish; it was not, it was the spawn of crustacea and shell fish. We had it examined and found that to be the case.

Major Jones.

2397. Is it the fact within your knowledge that an 8-inch sole of one district would probably weigh as much as a 12-inch sole in another district?—I could not give you very much information on that point, because I have not studied it, but I do find this, that under certain conditions an 8-inch sole, or whatever size you take, a fish will weigh more or less in certain conditions. For instance, if it has just spawned, it weighs less, or if it is feeding it weighs more.

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2398. Are

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Major Jones—continued.

2398. Are you aware of the considerable difference I indicated between different districts?—I am not.

Sir Albert Rollit.

2399. Do you take any halibut on your coast?—Only odd ones.

2400. Can you tell me anything as to the spawn of halibut?—I cannot.

Mr. Harry Foster.

2401. What was your statement about undersized fish coming from Lowestoft?—I was speaking, I think, then of the small soles which were sold on the west coast. I think I stated although we found quantities of very small soles in the market, they were not all caught on the Lancashire coast, but some came from Lowestoft. On two or three occasions I have asked of the salesmen where these small soles came from, and I have been told Lowestoft. Of course the trawlers from our side of the water have brought in small soles, but they do come from Lowestoft as well, to be sold in the Liverpool market.

2402. You base that on the statement made to you by salesmen, do you?—Yes.

2403. What was the size of these fish?—From eight, nine, and up to 10 to a pound. I think I sent some here the other day.

2404. From eight inches upwards, do you mean?—I forget the exact measurements of them, but eight inches principally; some were under eight.

2405. You said from eight inches a moment ago?—I was speaking of the weight; the soles I sent have measured eight inches. They were bought in Liverpool market, and came from Lowestoft.

2406. What are the limits of size that you suggest as the smallest for soles?—To allow them to reproduce, I said 12 inches.

2407. Do you support the suggestion that there should be a limitation of size?—Certainly.

Colonel Cotton-Jodrell.

2408. I see on looking over this paper which you have handed me, showing the result of

Colonel Cotton-Jodrell—continued.

trawls, that on the Cheshire sole grounds, the trawls with 6 and 7-inch mesh, practically, no soles have been caught at all?—Not so many with these nets.

2409. Those are the nets which we have had so much discussion over, are they not?—Yes; but you will find several returns, I think, in that book, and also in the rough proofs which are not yet printed, where mention is made of the size of soles.

2410. But there are, practically, no soles reported here at all, so that this experiment, so far as soles are concerned, is valueless, is it not?—If you will take page 9, you will find that with a 7-inch mesh there were 16 soles taken, weighing from seven and a half ounces up to 27 ounces.

2411. But that is on another ground, is it not?—No; it is on the bottom of the Horse Channel. You will find three entries there, all on the Cheshire ground, on page 9.

Mr. Harry Foster.

2412. Do I understand you to draw a distinction as to the limitation of size for soles; between soles of eight inches long and soles which can reproduce?—Yes; the 8-inch sole does not reproduce. To allow any quantity of soles to reproduce the size will have to be 12 inches.

2413. Then is your recommendation that only soles that have grown to maturity should be allowed to be imported?—That is looking to the benefit of the fisheries alone.

2414. But do you look at it simply from that point of view alone?—No; I do not suppose you would get the fishermen to agree to that size.

2415. Then you do not, as a practical man, recommend that, or do you?—I would most decidedly recommend it for the benefit of the fisheries alone, but I think eight inches is too small a size to have; even for the fishermen and from a market point of view I should want quite half a pound.

2416. Which would be what length?—They would range from a little over 10 to 12 inches.

*Mr. ARTHUR DAVIES BERRINGTON, called in; and Examined.**Chairman.*

2417. You are an Assistant Secretary, I believe, to the Board of Trade?—Yes.

2418. Do you take charge of the Fisheries Department there, and are you Chief Fishery Inspector of England and Wales?—Yes.

2419. Have you come here to give such assistance as you can to this Committee from the Board of Trade?—Yes.

2420. As I understand, the Board of Trade is not prepared to make any definite recommendations itself to the Committee?—No; the main question, I imagine, in which England is interested is this question of the undersized fish, and on that subject the Board of Trade are not prepared to make any recommendation.

2421. Have they an open mind at present?—

Chairman—continued.

They wish to have the advantage of the investigations of this Committee.

2422. Can you give us any evidence with regard to the quantity of fish caught during the last 10 years, say?—I have a table here showing the quantity and value of fish landed on the east, south, and west coasts from the year 1886 to 1892. Those are the years over which these statistics have been collected by the Board of Trade. I do not attach much importance to the first year, 1886, because the whole organisation was then new, and certainly there were some errors, but taking the first three years, as against the last three years, the produce of the last three years, 1890, 1891, and 1892, was about 8 per cent. less than that of the years 1887, 1888, and 1889. During that time, I may point out,

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Chairman—continued.

out that the steam fishing power of the east coast—speaking entirely of the east coast at this moment—was more than doubled. (*The table was handed in.*)

2423. So that as far as the Board of Trade returns are concerned, they would go to show, would they, that in spite of very increased powers of capture, there has been a very evident decrease in the weight of fish caught?—That would be so, undoubtedly; as compared with the increased power of capture, the decrease is very great.

2424. Do you think the two periods extending over six years is enough to go by?—No, I do not; but we are obliged to work with the statistics that we have, and it will be seen that there is a general decrease through these years. In 1887 the quantity on the east coast was 5,157,000; in 1888 it was 5,260,000; in 1889 it was 5,233,000. For 1890 it was 4,719,000; for 1891, 4,670,000; for 1892, 5,105,000. The differences are due, as a rule, to the weather. In fine seasons we get more fish than in bad seasons. The figure of 5,105,000 is nearly going back to 1887, but taking the three years together there is a decrease.

2425. But the catching power has enormously increased?—Yes, more than double.

Mr. Mallock.

2426. Can you tell me which is the boundary between the east and the south coast?—The boundary is supposed to be fixed at the North Foreland, between Margate and Broadstairs.

2427. Then North Devon, I suppose, would be on the west coast?—Yes.

Chairman.

2428. Do you find that on the south and west coast there is a similar decrease to be noticed?—On the south coast there is a decrease of 6 per cent. in the same time. Even there the circumstances are not quite the same as they were. A good many fish are landed on the south coast which are taken in the Irish Sea and opposite the west coast and in the Bay of Biscay. Formerly those fish were not brought in, so that there appears to be a decrease there. On the west coast the produce has enormously increased, 75 per cent.

2429. How do you account for that?—The discovery of new beds to the south-west of Lundy, which I am sorry to say are now nearly fished out, and generally the necessity for moving on in consequence of the North Sea being no longer so productive as it was.

2430. Do you attribute such damage as has occurred to our fisheries purely to the adoption of steam, or do you think it had already begun before steam became so general?—I do not attribute it to steam. I attribute it to over-fishing; but steam is only one mode of trawling, and it is the most effective mode. I should never prevent a man from using the most effective instrument whilst he is fishing.

2431. Then do you disagree with the theory which Professor Huxley has expressed, that it was impossible for the effort of man with existing appliances materially to reduce the harvest of the sea?—I think Professor Huxley's opinions on that point.

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Chairman—continued.

referred chiefly to herrings and mackerel, and distinctly migratory fish. With regard to those fish, I agree we have not made any perceptible impression upon them, but with regard to flat fish and round fish which, although migratory to a certain extent, but which you can lay your hand upon more or less at all times, I consider it quite possible for man to produce an effect upon them, and that he has produced that effect.

2432. Simultaneously with the decrease that has been observed on the east and west coasts in the amount of fish taken, I notice from your tables that the value has gone up?—Yes, the value has increased.

2433. Can you tell me at all, what sort of increase there has been in the price of fish during the period over which your statistics range?—I have a table here which gives the quantity, value, and average price of the different kinds of fish during the same years as before. The quantity of soles landed has not generally decreased, but the price has risen by 50 per cent. Turbot remains much the same in quantity, but has increased 24 per cent. in price. Plaice has not varied much in quantity, but it has increased 16 per cent. in price. (*The table was handed in.*)

Mr. Buchanan.

2434. Is this east coast you are speaking of?—All round. The average price of all wet fish has increased a little over 13 per cent.

Chairman.

2435. Since you have been in the room listening to the evidence, once or twice complaints have been raised as to the accuracy of the Board of Trade statistics; have you anything to say on that point?—Of course, every care is taken and no trouble is spared to obtain the best information we can get, and I think the fact that the collection has been chiefly in the hands of Mr. Giffen is sufficient warranty that the thing would be well done; but we have only a fund of 700*l.* a year with which to do all this work, and for that we have, I think 154 or 155 collecting stations, so that we cannot get or expect to get an exhaustive return. We get the best approximation to it that we can, and then we print the railway returns in the same paper for comparison. It must not be supposed that the railway returns ought to correspond in any way with the collector's returns. The question was raised by a witness the other day, who referred to the case of Hull. Hull has a return of half a million and more; 531,000 odd cwts. as far as I remember, from the collector; but the railways return 1,000,051 cwts. That difference is accounted for by the importation of Norwegian herrings which come into Hull in large quantities and which are not taken into account by the collector. It is not his business to take them into account; but they are returned by the Customs, and they appear in our statistics in another page as imported fish. Grimsby was also mentioned, and there is a difference; but the difference is accounted for in the same way by the fish that have been imported, and also by the shell-fish which are brought in there.

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Mr. BERRINGTON.

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Chairman—continued.

there, and which are not included in the returns of wet fish. Yarmouth was mentioned, and there exactly the opposite holds good. At Yarmouth the herrings are brought in and are brought into account by the collector, but they are exported after they have been cured, and consequently they do not come into the railway returns. Then Ramsgate was mentioned. Ramsgate was rather an unfortunate instance to choose to condemn the Board of Trade returns by, because our theory is that for typical accuracy we ought to get a railway return about 25 per cent. higher than the collector's return. One must allow something small for local consumption; but practically the weight of boxes and of ice when fish are sent away adds about 25 per cent. to the collector's return, and that is what we have at Ramsgate. There were three other places mentioned, Brixham, Plymouth, and St. Ives, and I may say that since the collection commenced, with the exception of the difficulties which occurred in the first year, I believe we have had no complaint whatever of any places except those three. We have been inquiring into those three for some time. The figures on the face of them look suspicious, but so far as we have gone, we have not been able to fix any inaccuracy until this last year's returns. The fact was that at Brixham and at St. Ives the local returns by which our statistics have been checked were the returns made by salesmen of the value of the fish sold, and it is on those returns that they had to pay their tolls. Of course when another set of statistics were introduced into the place which conflicted with their own returns, and which might seem to point to the necessity for an increase in the tolls, there was a good deal of indignation created, and I am rather afraid we shall find that the decrease in the returns from these three places during the last year is a decrease which is unnatural, and which is due to a great extent to local pressure. I have inquired both into Brixham and St. Ives myself, and my colleague, Mr. Mallan, has been down also. With regard to St. Ives, although I am not in a position to decide definitely as yet, my impression is that our return is the most correct. We make two returns; we return what the collectors give us, and we return what the railways give us. The railway returns are not necessarily always correct, and it may be that the difference is there. We are now inquiring into them, and I hope we shall be able to arrive at some definite opinion on the matter.

2436. Can you give us any statistics as to the increase among the fishing boats themselves?—As to the tonnage, do you mean?

2437. Yes?—I have a return of the numbers and tonnage of 1st and 2nd class fishing boats for the period over which the registry extends, from 1871 to 1892. It shows that the tonnage for 1st class boats in England and Wales increased until 1887, and from that time there is a slight general decrease. In Scotland and Ireland it increased until 1885, and since then there is a decrease. The tonnage of 2nd class boats decreased in England and Scotland throughout

Chairman—continued.

the period. In Ireland it increased till 1881; since then there has been a decrease. (*The table was handed in.*)

2438. Where do you draw the line between 1st and 2nd class boats?—At 15 tons. In England and Wales that includes 512 steam fishing boats.

2439. And of those I suppose by far the greater number are on the east coast, are they not?—They are chiefly on the east coast. There are about 40 steam trawlers on the west coast, about seven on the south coast, and the remainder on the east coast.

Mr. Buchanan.

2440. They have been steadily increasing have they?—They have been steadily increasing until the last four years or so, since that they have begun to fall off, that is to say the steam trawlers have been increasing, but the general tonnage has fallen off.

Mr. Mallock.

2441. Where are the seven on the south coast?—We include Ramsgate in the south coast, taking the North Foreland as the point; but there are no steam trawlers there. There are three at Rye, and at Falmouth I think there are three. There is one at Dartmouth.

2442. That is not a business boat is it?—No, they trawl at one time and tow vessels at another.

2443. The one at Dartmouth is considered as a yacht, is it not?—She is registered as a steam fishing boat, and it would be a good thing if more of these yachts were registered so.

Chairman.

2444. Have the international arrangements that have hitherto been entered into with regard to the North Sea worked satisfactorily?—They have worked very well. The convention of 1882, which was brought into force by the Act of 1883, has worked very well, but the system has since been improved as regards our arrangements with Belgium, by the declaration entered into in 1891, under which we appoint a Commission a sort of grand jury to inquire first into all cases of complaints before we send them on to Belgium, and the same thing is done in Belgium with regard to complaints of Belgian subjects against British fishermen. Then each Government takes it up, and either the British Government or the Belgian Government recover compensation as well as prosecuting the offenders.

2445. Do you think if any international arrangement was arrived at with regard to the sale of undersized fish it could be worked internationally?—International arrangements are very difficult to get into force. They take a long time to mature, and perhaps after all they are not ratified, but there certainly has been evinced a great disposition on the part of foreign countries to enter into some such arrangement as that, and I may draw attention to the report of the Conference of representatives of the different powers held in 1890 at Fishmongers' Hall, at which the representatives of all the powers expressed

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Chairman—continued.

expressed a desire for international arrangements with regard to the size of fish.

2446. Have many of the foreign countries prohibited the taking of undersized fish?—Yes. Only one, I think, since that conference or since the interchange of opinion there. I have here a return of the steam trawlers which shows that there are 349 on the east coast, as against seven on the south coast, and 40 on the west coast. (*The document was handed in.*)

Commander Bethell.

2447. Does that return give the average tonnage?—No, it does not, but I can give you the tonnage. Here are regulations with regard to the minimum size of fish that may be sold in France, Denmark, Belgium, Prussia, and Holland with regard to wet fish. With regard to crustaceans, we have some regulations in the United Kingdom, and some in France, Denmark, Portugal, Norway and Sweden. (*The document was handed in.*)

Chairman.

2448. Can you tell me anything about how far they enforce these regulations?—I have been making inquiries. I have not yet received all my answers. As regards Denmark, I am assured, and I am convinced in my own mind, that their regulations are carried out. With regard to Germany, Prussia and the Hanse Towns have some regulations of that kind, and I wrote to a friend who was connected with fisheries at Berlin. I have had a reply from him saying that the regulations are carried out, and that attention is very frequently drawn to them in the press, so that the matter is kept before the people there. With regard to France, my correspondent, I am sorry to say, is away from home, and I have not had an answer from him, but, judging from their usual mode of dealing with those things, I should think that probably the regulations are carried out. They are under a comparatively old Act, and not anything very recent. With regard to Belgium, I have not yet received an answer to my letter, but about two months ago, my colleague, Mr. Mallan, met probably the best authority in Belgium, and had a conversation with him on the subject, and he said that the law was being carried out; that they had had some slight trouble at the first, but that afterwards they had no further trouble, that is as regards this particular law, as to the sale of undersized fish. From Holland I have had a good deal of information, but I pressed for an answer on the point as to whether they did really prosecute anybody, and I have had a telegram this morning from Amsterdam saying, yes, they do, and the particulars are on their way.

2449. Perhaps you might be able to let us have those later on if you get them?—If you please.

2450. May I suggest to you this general question; do you, from the information that comes to you, consider that the fisheries in the North Sea for flat fish are deteriorating?—I have no doubt of it. Boats go so very much further away to catch fish than they used to; they cannot get the same quantity that they used to near home.

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Chairman—continued.

2451. And yet of course it is to the North Sea that we look for the main supply of fish, is it not?—Yes, the east coast fisheries of England only, not counting Scotland, produce more than 76 per cent. of the value of fish landed in England and Wales, and more than 54 per cent. of that landed in the United Kingdom.

2452. We have heard a great deal of evidence with regard to the deterioration of fisheries, but we have only had one suggestion for remedying it practically, namely, that the sale and landing of small fish should be prohibited, do you think that such a regulation would be sufficient?—The Committee has been told that within three years of the enactment of such a prohibition the North Sea would be replenished. Now I do not think that at all. But considering the great importance of these fisheries I do think that if a remedy can be found it certainly will not be so good a remedy as that witness contemplated, but still if anything which can protect these fisheries can be done, I think it would be desirable. I think, provided the size at which the fish are to be sold and landed is kept small enough, you really do not take away from the public any appreciable quantity of food, and that you may prevent trawlers from going to grounds where the small fish abound, which they use to fill up their boxes and make their general take look better than it really is.

2453. Have you formed any idea as to the sizes yourself. We have had a good deal of conflicting evidence upon the point, and I should like to hear what you think?—From the first I have always thought that the sizes proposed by the Association were too large, and what I have advised has been 8 inches for soles, and 10 inches for turbot, and brill, and plaice.

2454. Do you think there should be any exception made if such a regulation were proposed?—Of course one must allow for accidents, and I should be anxious that no undue pressure should be brought, in fact, that no ill-judged prosecutions should be brought against the fishermen. Fish will be entangled in the nets and must be brought ashore. Then there are the fisherboys, and, I think it is an extremely good thing for them, whilst they are too small to go out in the fishing boats, still to be able to learn something of their future occupation. I should let them have some small quantity. I should say that nobody should be prosecuted for landing less than 7 lbs.

2455. Who do you think should enforce those regulations if they were made?—The officers of the Sea Fisheries Committees, of course, should do something, but it would be desirable that the market authorities should in some way be required to see that the law is observed within their jurisdiction, because, even now, when a certain number of kinds of fish are forbidden to be sold at certain times of the year, we find that where some market authorities enforce the law, others disregard it altogether, even when their attention is called to the open sale of fish in their market. Especially with regard to the sale of fresh-water fish, during the close season we have complaints.

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2456. What

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Mr. BERRINGTON.

[Continued.]

Mr. Heneage.

2456. What is the next point you wish to deal with?—With regard to the territorial waters of England and Wales, I have brought some maps showing the way in which the coast has been divided into sea fishery districts, which are controlled by committees appointed under the Sea Fisheries Regulation Act of 1888.

2457. There are now 10 districts, are there not?—There are 10 districts, and the powers of the committees have also been conferred upon 34 fishery boards, and two harbour authorities. The committees consist of members appointed by the county and borough councils, and of at least an equal number of fishery members appointed by the Board of Trade.

2458. Under the Act of 1888, is it not?—Yes. The fishery members, I should say, include a member for each board of conservators, who is appointed by the Board of Conservators, and not by the Board of Trade.

2459. There have been some complaints from Plymouth and Brixham that the fishery members are not properly elected, have you anything to state on that point?—The fishery members are required by the Act to be representative of a large number of fishing interests. They have to represent not only owners of fisheries, but the fishermen and fish salesmen. The expression "fishing interest," includes all persons interested in fisheries, either as owners of fisheries, or interested therein, fishermen, fishing-boat owners, smack owners, fish curers, fish merchants, or otherwise, and any salmon conservators. Now if one were to set to work to make all those different classes of persons into a constituency, one would be very much puzzled how to register them. Some people will sell fish at one time of the year and not at another; some will be agricultural labourers at one time of the year, and fishermen at another; it would be impossible to define them, therefore it would be impossible to make a constituency. And if one could, the result would be that the large centres of the fishing industry would practically monopolise the representation. For instance, in Devonshire, Plymouth and Brixham would return the whole of the members, and the other interests along the coast would not be represented at all. The objects of the amendments which were put into the Act during its passage through the House of Commons, I imagine, were to secure the representation of all the different interests, and that is what we endeavour to do. The complaints only come from Plymouth and Brixham, and the object rather has been this: Pressure has been brought to bear upon us to give Plymouth a larger representation. As Plymouth Sound already has a representation of 12 members on

Mr. Heneage—continued.

a board of 42 members, it seems very doubtful whether that representation should be increased. That is a matter which no doubt the Board of Trade will consider before the next appointments.

2460. The committees have certain powers of making bye-laws under the Acts of 1888 and 1891, and you produce the abstract of bye-laws which have already been made and confirmed in a table which you put in, do you?—Yes. (*The table was handed in.*)

2461. In your opinion is it desirable to give further powers to regulate the fisheries, including the fixing of a minimum size at which fish may be taken and the manner of ascertaining the sizes, and providing for the redeposit of culch, and undersized fish?—Yes, I think for shell fish. I think otherwise the powers are now sufficient, but with regard to shell fish I should give them the power of regulating the fisheries. I should not give them power which is conferred by an Order, giving a several fishery, which several have asked for, because that would be destructive to the rights of public fishermen.

2462. Some of the committees have asked for power to spend money in stocking grounds, and so on; are you in favour of that?—I think that is desirable, but I should not let them go into the commercial speculation of selling the fish afterwards.

2463. With regard to Provisional Powers under the Act of 1868 what have you to say?—The Act of 1868 was an Act which enabled Provisional Orders to be granted with regard to fishing for oysters and mussels, and afterwards it was extended to cockles. Twenty-seven Orders in all were made then, some of them for the regulation of fisheries, containing powers which I think might fairly be given to the committees now. There were six of these, and they are still all in force, but I am afraid they are not doing much good. Of the Orders for several fisheries, 14 were in England and seven were in Scotland. Out of the 14 in England five have been determined and nine are still in force; but only about three of them seem to me to be doing any good. Of the seven several Orders for Scotland, four had been determined before the transfer of jurisdiction to Scotland, in 1885. I believe one has since been determined and another has been granted.

2464. With regard to the only other subject you have on your paper, that of oysters, you prefer to defer your evidence until after that of witnesses from the Fishmonger's Hall, I think?—Yes.

2465. Is there anything else which you wish to state to the Committee in chief?—No, I think not.

Thursday, 18th May 1893.

MEMBERS PRESENT.

Commander Bethell.
Mr. Buchanan.
Colonel Cotton-Jodrell.
Lord George Hamilton.
Major Jones.
Mr. Kearley.

Mr. Mallock.
Mr. Marjoribanks.
Mr. Robert Price.
Sir Albert Rollit.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. JOHN WRENCH TOWSE, re-called ; and further Examined.

Chairman.

2466. I THINK you have drawn up a statement for the benefit of the Committee with regard to the views of the Fishmongers' Company as to the question of the sale of foreign

Chairman—continued.

oysters during the close time in England?—Yes, here it is.

2467. Will you hand it in?—Yes. (*The document was handed in.*)

Captain ABSALOM ANDERSON, called in ; and Examined.

Chairman.

2468. You are Chairman, I believe, of the Whitstable Oyster Company?—Yes.

2469. You are also a Nautical Assessor of the Board of Trade, are you not?—Yes.

2470. Have you been long connected with the oyster trade?—Yes. I have been about 20 years connected with it ; and 10 years intimately connected with it.

2471. Do you take an active part in the management of the company?—Yes.

2472. Have you been in the habit of importing many oysters from abroad?—Yes.

2473. Therefore do you consider yourself able to speak with certainty as to what I may call the habits of the French oysters?—I do.

2474. The point that I think there is a variance to between you and some of your co-oyster merchants, if I may call them so, upon is that you say that oysters imported into England during the open season, and laid down in British waters, should not be sold during the close season?—Yes, I maintain they should not be sold.

2475. They, on the other hand, maintain, do they not, that oysters brought in during the English close season, and laid down in English waters, are perfectly fit for sale during the English close season?—I believe that is their contention.

2476. Am I fairly stating the main point between you?—Yes.

2477. What are your reasons for saying that the foreign oyster introduced into English beds during the English open season are not fit for sale during the English close season?—Because I cannot possibly conceive that anything in a state of pregnancy is fit for human food.

2478. Do you think that the foreign oyster laid down in English beds, prior to the month of April, during the months of May, June, and July, is either spatting or is on the point of spatting?—There is not a doubt about it.

2479. Is it your opinion that an oyster in that condition is unfit for human food?—Most certainly it is.

2480. Do you believe it to be unhealthy to eat, or not?—I can only repeat and add that in my opinion the oyster in that condition is altogether unfit for human food.

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Chairman—continued.

2481. Do you mean to say that it causes a functional disturbance in the human frame?—Yes, certainly.

2482. And, at any rate, you do not consider, do you, that it is to the benefit of the oyster beds of the country that these oysters should be sold or used in this condition?—I do not think it is to the benefit of the oyster beds, nor to the public generally.

2483. Does your company bring in any considerable number of French oysters?—Yes.

2484. Tell us what is your practice with regard to the oysters you import yourselves?—We generally import them about the month of March. We lay them down in our beds, and they are taken up as required all the year round.

2485. Do you sell any of these oysters that you import during the close season?—Yes, now.

2486. You do sell them, do you?—Yes, now ; but we did not do so until about eight years ago, when our customers complained and said that they could get these second oysters elsewhere, and if we did not like to supply them they would go to others who would, and deal with them all the year round ; consequently we felt compelled, although reluctantly, to do this.

2487. Then for the sake of the profits of your company, you, at this moment, practice a habit which you think is detrimental to the beds, do you?—It is in a sense detrimental to the beds.

2488. And do you do that in self defence practically?—Yes.

2489. Have you any means of distinguishing a re laid oyster from one that has been bred on the ground?—Yes, very readily.

2490. How do you distinguish them?—By the characteristics of the shell and the fish, but the shell principally.

2491. Do you consider that the foreign oyster, when relaid in an English bed, becomes indigenous to the English bed or not?—No, not altogether indigenous, I think that it will assume the characteristics of the English oyster to a very great extent in the third or fourth generation, and it would require an expert to distinguish the difference.

Commander Bethell.

2492. They will breed there all right, will they?
—Yes ;

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Captain ANDERSON.

[Continued.]

Commander *Bethell*—continued.

—Yes; provided the climatic conditions are favourable.

Chairman.

2493. From your experience do these foreign oysters spat at exactly the same seasons as the the British ones?—Exactly in every way.

2494. Is it the case that British oysters are sold during the close season, under the pretext that they are foreign ones. Is the real true native ever sold during the close season as a foreign one?

—No, but *vice versa* many foreign ones are sold under the name and title of Royal Whitstable natives, I am sorry to say.

Colonel *Cotton-Jodrell*

2495. You were asked whether they sold in the close season?—I believe the question was whether British oysters were sold as foreign oysters, during the close season.

Chairman.

2496. Yes, during the close season?—No; but many foreign oysters are sold under the title of Whitstable natives.

2497. During the close season?—Yes. During the close season I have seen them sold, and I can give you two or three instances in the north where they have been sold as Whitstable natives.

2498. Surely persons so selling these oysters would be liable to a penalty, would they not?—Yes. The case I am about to quote did not apply to the close season, but we had a case with regard to the purveyor to the Royal Law Courts, who was selling an inferior oyster for Whitstable natives, and we obtained a perpetual injunction against him for doing so; where we have seen these instances we have remonstrated with those so offending, and they, as a rule, have immediately taken the placards out of their windows.

2499. Is it the fact that the native oyster, in this country, has greatly diminished in number?—Yes; but not to such an extent as was the case previous to the fixing of the close season in 1877. The sole cause of diminution in my opinion is that the climatic conditions have been unfavourable.

2500. And that the beds in many cases have been quite destroyed?—I cannot say destroyed, but they have become more or less depleted during the last few years.

2501. I should have said depleted. Do you believe it to be the interest of the oyster trade generally, that the close season should be made applicable to all oysters?—Most certainly; and if I may add to your words, I maintain that the close season should be made absolute.

2502. That is to say, that during the months of May, June, and July, you would forbid, would you, the sale of oysters of any description within the realm?—Exactly, that is what I say most emphatically.

2503. The Act of 1877: "A person shall not sell, expose for sale, consign for sale, or buy for sale any oysters known at the passing of this Act in the oyster trade as 'deep sea oysters' between the 15th day of June in any year, and the following 4th day of August, or any description of oyster other than those aforesaid between the 14th day of May in any year, and the following 4th of August." Do you propose to extend the prohibition to deep sea oysters as well as to

Chairman—continued.

the bed oyster?—I would make it absolute, and I would say that no oyster should be taken, or exposed for sale, during the months that you have named.

Mr. *Buchanan*.

2504. Of any sort?—Of any sort whatever.

Colonel *Cotton-Jodrell*.

2505. What part of the coast do these French oysters come from?—Brittany, Arcachon, La Chateau, and various districts in France, but principally Arcachon.

2506. You do not say anything about the importation of American oysters. Are American oysters laid down at all?—Yes, they are laid down.

2507. Would you extend the prohibition to them in the same way?—I would to all classes of oysters, because the same objections that apply to one class of oyster equally apply to all sorts.

2508. You mean because their breeding-time is the same, do you not?—Exactly.

2509. Do the American oysters breed well in English waters?—They do not breed the first year, and my reason for saying that is that there is a very great difference between the density of the water where they come from and where they are placed; consequently, that, in my opinion, frustrates their breeding the first year, but if you let them continue and get accustomed and acclimated to our water they will breed the second year in exactly the same way as do our English oysters or re-laid French oysters.

2510. Do they after the third or fourth generation assimilate themselves to the English species as you said of the French oysters?—Not to such an extent as the French oysters do; they keep their characteristics clearly and distinctly, and well defined.

Chairman.

2511. I may imagine the same conditions would apply to the Portuguese oysters as to the American; is not that so?—Yes, I want the Committee to understand that my observations are directed to all classes of oysters. I maintain from my own observations that all oysters will sicken and spawn in English waters.

Colonel *Cotton-Jodrell*.

2512. What difference of depth is there between where the deep sea oysters are obtained and the beds?—It depends entirely upon what districts you take the deep sea oyster from. The deep sea oyster comes from 11 fathoms, 12, and as much as 20 fathoms of water, whereas in our waters, where there is a well-known bed, we have about two fathoms of water.

2513. Has there been any attempt to import the Cape oyster into this country?—I am unable to say.

2514. It is a very deep shelled oyster is it not?—Yes. I think it would be impossible to import it into this country, inasmuch as the length of time occupied to bring it from there to here would be too long, and fatal to the oyster.

Commander *Bethell*.

2515. What is the distinction between a deep sea oyster and other oysters. Of course I do not mean in the place they are caught, but in the nature of the oyster itself is there any difference?—Yes, very considerable. The deep-sea oyster is a much

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Captain ANDERSON.

[Continued.]

Commander *Bethell*—continued.

much coarser kind of oyster and has not the flavour or characteristics of the native or the relaid French oyster.

2516. The deep sea oyster would not survive, I suppose, if he were moved into shallow beds?—Yes, he would, we lay them on our beds every year, and are used principally as sauce oysters.

2517. Would he breed there?—Certainly.

2518. Why do you import foreign oysters for the purpose of relaying them upon your beds. Is it because English oysters have been so depleted?—No, not altogether; we bring them because the public require them, and because they improve very much in our waters. The oyster which is brought over and laid in our waters is quite different to the oyster which you take up three months afterwards.

2519. But why do you go to the expense of bringing these if you have plenty of your own?—We have not plenty of our own.

2520. Then it is because your oysters are depleted a good deal is it not?—Yes, to a certain extent; if we could fortunately get another spat of brood like we had 30 years ago we should be loth to touch any relaid oysters of any description.

2521. Then these oysters you import are for the purpose of filling up the beds and breeding, are they?—No, not breeding, because unfortunately we have not been able to breed from them on account of the climatic conditions not being favourable, for the last 30 years.

2522. But I thought you said just now that the foreign oysters would breed all right did you not?—Exactly so, they will, provided the climatic conditions are favourable.

2523. That is to say, is it, that the temperature of the water in which they are placed must more or less approach the temperature from which they came?—Yes, if you can get the water from about 65 to 75 degrees and the conditions favourable there is not a doubt about them breeding and maturing. I have seen several instances where the French oyster has bred and has made a very fine oyster, not on our beds, because we are open and we have not had a spat of brood for the last 30 years, but in enclosed areas where they have been protected from the sea.

2524. Then the oysters you import and relay are simply put down for the purpose of being pulled up again for sale, are they?—Yes, for edible purposes.

2525. It has nothing whatever to do with breeding has it?—Not so far as foreign oysters are concerned. But the natives that we purchase and lay annually, we are hoping to get a spat from every year.

2526. Beyond these limited experiments, have there been no successful attempts at importing breeding oysters upon a large scale?—We have not had a spat of brood for the last 30 years, and consequently we are unable to say anything with regard to what the French oyster can do in the open beds. The same reasons that apply to the native oyster apply to the French oyster; that is, we have not been able to get a spat from either, but I take it that if the French oyster (and there is no doubt about it) will breed when the conditions are favourable, in enclosed areas, they will also breed and mature in the open beds.

2527. Does your company make any scientific

Commander *Bethell*—continued.

experiments upon the breeding of oysters?—No, our beds are too open and exposed in order to do so. We, of course, do all we can in other directions, and we only want a warm spring, followed up with a good sunny June and July to ensure a successful spat. We have the Kentish Flats adjoining our beds, where 30 years ago a most valuable spat of brood fell, and since that time we have not had the conditions sufficiently favourable in order to get another spat of brood.

2528. When oysters are relaid, are they just left alone until you are ready for them?—No. We are constantly dredging, or, if I may use another word, overhauling them, in order to catch the enemies of the oyster, which if left alone would kill and destroy them.

2529. What are the enemies?—The dog whelk, the five finger, the starfish and various others.

2530. Is there any export of oysters from this country?—No.

2531. Is there a considerable import?—Yes.

Mr. *Buchanan*.

2532. Is there a close time for oysters abroad, in France and other countries?—I believe three years ago the close time in France was abolished, but at Arcachon they have just made another decree ordering a close time.

2533. Is it the same close time as ours?—Yes, about the same.

2534. Does that at all stop the sending over of French oysters here during the close time?—No. At Arcachon I may say they adopt more or less measures to protect themselves, and the order that they have just passed there, is, I believe, that no oyster under five centimetres can be exported during a certain season.

2535. That is quite recent, is it?—That is quite recent.

2536. Is there a close time in America?—I am unable to say definitely.

2537. You do not know except as regards France, do you?—No.

2538. Is there a large consumption of foreign oysters in England during the close season?—Yes, there is a fairly large consumption, but it is principally at watering places such as Hastings, Bournemouth, Brighton, Ramsgate, Margate, Southend-on-Sea and other watering places. In London there is a very small consumption, but in all the watering places there is a large consumption.

2539. But it would be a considerable step to take if you were absolutely to forbid the sale of oysters during this time, would it not?—Certainly.

2540. It would mean a great diminution in the sale would it not?—It might possibly, but still if they are unwholesome, and unfit for food (which I maintain they are) the diminution of the sale is of a secondary importance; besides, I believe, if the sale was forbidden during the close season, at the end of August the public would buy them more readily, and I question whether there would be any diminution in the sale at all during the 12 months.

2541. But you think that would ultimately benefit the oyster trade do you?—We object to it on the ground that we do not consider it proper,

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Captain ANDERSON.

[Continued.]

Mr. Buchanan—continued.

or that there is any law, either civil or divine, which sanctions a person eating an oyster while it is in that state; but, on the other hand, if it cannot be made absolute, then we think it would be very unfair to the British planter. If, for instance, the British planter is prohibited from selling oysters during the close season, and the foreigner is allowed to send them into our markets every morning, then we say it would be most unfair. We say that the objection as to oysters are exactly alike all round, and the close season should be made absolute, and that oysters should not be taken or sold during those months.

2542. Does the oyster become unfit for food at the same time in America, and on the Continent as on our coasts?—Yes, about the same time.

Major Jones.

2543. Do you think there are any reasons why the close time should be different on different parts of our coast?—No, our climatic conditions are much the same, the oyster sickens and spawns all round the coasts of Great Britain during the close time, as now fixed.

2544. Then are you in favour of an international treaty to control this question from an international point of view, and prevent the importation of oysters into this country during what you consider the necessary close season?—For consumption, certainly, but not for relaying purposes.

2545. Of course you appreciate it will be necessary to have a law and treaty resting upon that law, do you not?—No, I do not; I would deal with oysters in exactly the same way as freshwater fish is dealt with, namely, that freshwater fish shall not be taken or exposed for sale during three months of the year, and what we say is that if a foreign oyster is sent over here and it is unfit for human food, that food should certainly be seized and that the power should rest with some authority to seize it, because the same objections that make the English oyster unfit, make the French oyster unfit.

2546. Is your view sustained by scientific authority?—Certainly; most decidedly. I can refer you to various authorities, and in particular to the late Mr. Frank Buckland; no greater authority, I think, existed.

Mr. Robert Price.

2547. You said that taking these laid-down foreign oysters did not do any good to the oyster grounds, I presume you meant by that, that it did absolute harm to them?—No.

2548. I presume you do not lay down the foreign oysters where the English oyster beds are do you?—When I said it did not do any good, I meant that we were unable in the open beds to get any spat from them, on account of the climatic conditions being unfavourable. I am obliged to you for putting that because I am able to clear it up. I did not mean that it damaged the ground in any form.

2549. Then although you think it is possible that foreign oysters might breed, as a matter of fact, they do not as a rule breed, because the climatic conditions are not favourable; is that what you say?—No; I say absolutely that they do breed, and I have seen some very fine samples of oysters which have been bred from French

Mr. Robert Price—continued.

oysters in this country, and the fish, gastronomically, has been a great improvement on the French oyster, and the shell also improved. But what I say as regards to our beds is that we have not had a spat lately as the conditions have been unfavourable.

2550. The next generation you mean?—Yes.

2551. Your two objections to the sale of foreign oysters during the close season, I mean simply imported oysters, were these: first, that you thought it was unfair to the British oyster growers, and secondly, that you thought they were unwholesome?—My objection pure and simple is, that they are unwholesome and unfit for food, and that the sale should be strictly prohibited. I must repeat that if measures are adopted to stop the sale of re-laid oysters, the same measures should apply to the importation of foreign oysters for the purpose of consumption, otherwise it would be sacrificing a British industry in favour of the foreigner.

2552. You have given Mr. Buckland as an authority for saying they are not in a fit condition to eat?—Yes. Yes, and I refer you to his evidence, and in particular to page 31 of the Report of the Royal Commission on Oyster Fisheries, dated the 7th July 1876.

2553. Is there any medical authority to the same effect; have any diseases been traced to the consumption of the foreign oyster, or is it merely that you think that fish in a condition of pregnancy are not wholesome?—I can only say this (but I cannot use the medical gentleman's name without authority), I was speaking to him some time ago, and he told me that one of the most fruitful sources of his income was people coming to the seaside and eating these oysters, inasmuch as it caused blood poisoning.

2554. And those were not bad oysters, but merely pregnant oysters, were they?—Yes, pregnant oysters.

2555. Is there any export of British oysters to foreign countries?—No.

2556. Neither in the open, nor close season?—No. Of course the export took place years ago with regard to Arcachon; the oysters there were bred from our oysters, and now they have overtaken us, and supply us.

2557. That is the celebrated green oyster, is it not?—Yes.

2558. And it loses its colour after its has been in our waters for some time, does it not?—Yes, in our waters at Whitstable.

Chairman.

2559. You said that these relaid French oysters do not breed during the first year, did you not?—No, the American oyster.

2560. The French does, does it?—Yes, the French oyster breeds directly.

2561. Is there anything else that you wish to add to your evidence?—No I think not.

Commander Bethell.

2562. I thought in reply to some questions I put to you about the breeding of oysters, you said that foreign oysters did not breed in our waters?—There is a misunderstanding with regard to breeding and spatting. That is how I think you misunderstood me, what I say is this, taking

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[Continued.]

Commander *Bethell*—continued.

taking the French oyster, it sickens and spats every year in English waters, but whether that spat comes to maturity or not entirely depends upon whether the climatic conditions are favourable. But as to sickening and spitting, that is throwing out the young oyster (that is a fact which I think, no one can deny) happens every year; but whether they come to maturity entirely depends upon the climatic conditions.

2563. Are you prepared to say as to the French oysters that are brought here that their offspring do not come to maturity; when relaid do the offspring of the foreign oyster ever come to maturity in considerable numbers?—What we say is, that the throwing out of the young oyster happens every year, but whether they come to maturity or not entirely depends upon the climatic conditions. It is only fair to say that we have not had a spat of brood for the last 30 years, and if the French oyster has not matured, neither has the native oyster matured, and that has been owing to the climatic conditions not being favourable. But I have seen some splendid matured specimens from the French oyster which were bred in the years 1887 and 1889.

Mr. *Kearley*.

2564. May I take it that it requires exceptional climatic conditions to cause these oysters to spat?—No, they spat every year, but it certainly requires the climatic conditions to be very favourable in order that they may mature.

2565. And that might be once or twice in 20 years you say?—Exactly. In the years 1858 and 1859, we had two exceptionally heavy spats, and since that the conditions have been unfavourable, consequently, since that time we have had no fall of spat. The oysters have sickened and thrown off their young, just as they always have done, but if we get a cold night, and the temperature of the water goes down 10 degrees, then millions of young oysters which are floating about are killed in one night; after they become attached to some rough substance at the bottom the risk is practically nil.

Mr. *Robert Price*.

2566. Do you mean that only a very small proportion of the spat comes to maturity; some of it does of course; is that so?—A very small proportion.

2567. Do you mean that there have not been any young oysters since 1859?—We have had a

Mr. *Robert Price*—continued.

few, but scarcely any. For instance we are catching a few off the Kentish Flats but the proportion is so small to a good spat, that we say it is absolutely nil.

Chairman.

2568. I suppose the real fact of the matter is, that you have been induced to import all these foreign oysters, in order to make up the deficiency of the brood in your own waters arising from your own oysters?—Yes, exactly.

2569. And, as I understand, the same conditions which are fatal to the development of the spat of the foreign oyster are also fatal to the development of the spat of the home oyster?—Yes, exactly so.

2570. And what applies to one applies to the other, is not that so?—Yes, in the self-same way.

Mr. *Mallock*.

2571. Are your beds getting used up altogether?—No, certainly not; although we are unable to get a spat, we purchase the native brood from Essex. They are in a more favourable position, and are able to get a spat almost every year; we keep up our supply of native oysters by buying from them, laying them on our beds, where they lie for a year or two before being sent to market for sale.

Mr. *Robert Price*.

2572. Has there been any improvement in the supply of oysters since the passing of the Act of Parliament?—Not so far as we are concerned, but that does not prove the close season has not been beneficial, the failure of improvement in our beds is entirely owing to the climatic conditions not being favourable.

2573. It has made no difference to you, has it, because you have not had a spat of brood?—No, it has made no difference to us only from a financial point of view, but we can never tell from one year to another when we may get the benefit of it, and if we get another spat like we had in 1858 and 1859 that would supply our beds for the next 10 years.

2574. But I suppose the Essex people are the better for it, are they not?—Yes, as I have said, they get a spat almost every year, and I think every one is agreed that with regard to the native oyster, a close time is most rigidly observed everywhere, and nobody interested in the native oyster disputes the benefit of it, nor would they like to reopen the question, as they feel the benefit of it.

Mr. GEORGE OATLEY, called in; and Examined.

Chairman.

2575. ARE you a dredgerman in the service of the Medina Oyster Company?—Yes.

2576. How long have you been in their employment?—Twenty-six years.

2577. Are you thoroughly conversant with the culture of oysters?—Yes.

2578. I think you served under Captain Edward Johnson, did you not?—Yes.

2579. Was he the manager of the Medina Oyster Fisheries for a long time?—Yes.

2580. Are you thoroughly acquainted with all his views on the subject?—Yes.

0.93.

Chairman—continued.

2581. I believe he was an expert in oyster fisheries, was he not?—Yes.

2582. Do you have to deal with many French imported oysters?—Yes, we have.

2583. Can you tell us whether the French oyster does spat freely in British waters?—Yes, it does.

2584. Do you find that the French oyster does spat the first year it is laid down?—Yes, I have some here (*producing the same*). These have spat from the first year they were laid down in 1887.

2585. Do you remember the oyster spat of 1887?—Yes,

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2586. Was

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Mr. OATLEY.

[Continued.]

Chairman—continued.

2586. Was that an exceptionally good year with you?—Yes.

2587. Tell us what you remember of that year?—I remember that that was the only oyster put into the pond. They are bred in a pond. I could not say exactly the amount, but it was a nice fall of spat, and one we have been making use of ever since.

2588. Was 1887 the last year that you had a good spatting year?—No; we had one, but a lighter spat, in 1889.

2589. But you have been dependent on those two years ever since, have you?—Yes, on the 1887 fall of spat; the 1889 have not come to maturity yet.

2590. In 1887, did the British oyster also spat freely?—We had not any.

2591. It was purely French oysters which spat in 1887 then, was it?—Yes.

Mr. Buchanan.

2592. Where are your grounds?—Our grounds are in the Medina river, Isle of Wight.

Chairman.

2593. What is the name of your pond?—Somerton Pond.

2594. What is the extent of it?—About three-and-a-half acres.

2595. What do you use it for?—It is a breeding pond.

2596. Then do you take these young oysters out of these ponds, and lay them down outside to fatten?—Yes.

2597. Can you tell me how many oysters you put into that pond in 1887 to breed?—We put in about 90,000 in the year these were bred.

2598. You put in about 90,000 French oysters in 1887, for the express purpose of getting spat from them if you could, did you?—Well, the pond was in readiness for them, they came direct from France, and they were put into the waters, and we received this spat from them, and got them for the market in the season.

2599. Was this pond cleared out before you put these oysters into it?—Yes, ready for spatting.

2600. And was it relaid with these particular oysters so that you have no doubt it was these foreign oysters and no others that provided you with this spat?—No others whatever.

2601. How long after they were laid in the Somerton Pond did they spat?—They threw their spawn off within a week or so after they were in, and the spat was taken on three weeks afterwards.

2602. Do you remember the particular month in which you brought these oysters from France to your pond?—I think it was in May, but I almost forget; I think it must have been the latter part of May or the beginning of June.

2603. Then you brought them there with the spat already fully developed within them; they were ready to spat when you brought them there, were they?—I could not say that; they were in the water.

2604. I want to know if they developed their spat in your pond, or were they already full of spat when they arrived?—They got it in the pond; they would very soon gain their spat there.

2605. But do you not tell me these oysters would develop spat within a week, do you?—

Chairman—continued.

They may be ready to throw it off from their beards in less than a week.

2606. If these oysters threw off their spat within a week of their being placed in your pond, is it not the fact that when they were placed in your pond they were already in the sick stage?—Yes.

2607. Therefore this particular case does not show does it that the French oyster develops spat in English waters at once?—Yes, these did.

2608. It shows that they shed it but nothing more. At any rate your experiment shows this, that the change of water does not stop the throwing off of spat?—It makes them throw it off if you put them into warmer water.

2609. The sudden change you think helps them to throw off the spat do you?—Yes.

2610. Have you ever brought French oysters into your ponds at an earlier period of the year, say in February or March?—I cannot tell you that. This is the only lot we have had during this time. There were no French oysters put into the pond before these were bred.

2611. But since 1887 have you put French oysters in?—Only these.

2612. What have you done the other years?—Since then?

2613. Yes?—We have never had any except those which we have followed on.

2614. You have not introduced any since then?—Yes, one lot in 1889 from the spawn of these produced.

2615. They were not brought straight from France, were they?—No, when the oysters came from France, these which I have here are what they threw off in 1889.

2616. The water from the Medina river I suppose flows through this pond?—Yes, it fills from the Medina river.

Commander Bethell.

2617. Does it go through it or fill it as it rises?—No, it goes through a sluice; it is filtered in.

Chairman.

2618. When the spat is first thrown off, what does it do?—It floats about.

2619. Is it evident to the naked eye?—It is like a lot of grit in the water; you want a keen eye to see it, you want a glass to see it properly.

2620. But still you can see can you, that there is a thickness in the water?—Yes, we take up a bottle and look through a glass for it and discover it in that way.

2621. How long does it float in that way?—Three or four days, unless there is a cold night or thundery weather, when it settles and does not come to perfection. If we get fine weather, it will float about six or seven days and then when it settles it is likely to take hold, it fixes to the shell or the bottom.

2622. In fact it takes several days to float about, does it, in order to develop sufficient life to catch hold of the culcth, when it settles down on to the bottom?—Yes.

2623. And the effect of cold nights or thundery weather is to destroy the young spat as it is floating, is it?—Yes.

2624. Is it your opinion that an oyster when it is either just about to spat, or has recently spat

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Mr. OATLEY.

[Continued.]

Chairman—continued.

spatted, is fit for food?—I do not think it is eatable.

2625. Do you think it is at all poisonous in its nature?—No, I do not say it is poisonous, but I do not think it is eatable.

2626. You do not think it is wholesome?—No, not wholesome.

Colonel Cotton Jodrell.

2627. You would not eat one yourself if you knew it?—No, not when it was spawning or sick.

Chairman.

2628. Can you tell me whether the spat grows very quickly?—Yes, it does.

2629. How quickly. As to this spat of yours which was shed in May, when did you remove it from the Somerton Pond?—We moved some out in the fall of the year. In September I think we took some out.

2630. What sort of size were they then?—Some were about the size of a shilling, or a two shilling piece, and some smaller.

2631. Where did you lay them down?—In the Medina river.

2632. Did they develop quickly?—Yes.

2633. How soon were you able to use those for sale?—In four years.

2634. Are those oysters which you have produced some which you have recently dredged?—Yes.

2635. Should we find those in an unwholesome condition?—I could not say; there might be spawning ones amongst them, and they might only be headed up, but if they were put into a warmer place they would soon get it into the beard and throw it.

2636. Can you easily distinguish the foreign from the British oyster?—Yes, within two years, but I could not afterwards, it comes more to the mature afterwards.

2637. As young spat can you easily tell it?—Yes, up to 12 months or two years old.

Colonel Cotton Jodrell.

2638. Is there any difference between those you have produced?—These are all one breed; here is the shell it pitched on; there are three on this shell and there are two here together (*exhibiting the same*).

Mr. Buchanan.

2639. Are these the 1887 lot?—Yes, there is all one head here you see.

Chairman.

2640. At any rate you have no doubt, have you, that the French oyster will breed freely in

Chairman—continued.

British waters, and that they develop quickly after breeding?—Yes, if the water permits them.

2641. Would you say that the French oyster breeds as freely in British waters as the native British oyster does?—Yes, quite as freely.

Commander Bethell.

2642. How long does an oyster live when taken out of water?—It will live a week according to the weather. If you put it in the air or the sun it will not live long, but in a cool place it will keep a fortnight if you keep the air from it.

2643. You told us just now that the spat floats for a certain number of days?—Yes, five or six days.

2644. At the end of that time it sinks, does it?—Yes.

2645. Are the chances then that it lives and becomes mature?—Yes, if the water permits.

2646. Supposing the spat gets over the floating period, are the probabilities then that it will develop into an oyster?—Yes.

2647. The dangerous time is while it is floating, is it?—Yes, if the cold nights come it is killed, but if the weather is good it will fix on.

2648. But supposing it floats say six days, does it then sink naturally?—Yes, they go down and take hold underneath. This is how this oyster took hold (*describing*); they go on to the bottom as well.

2649. What I am anxious to find out is this. You have told us that the spat floats for a certain time?—Yes.

2650. If it sinks very soon then the spat is probably useless, and is dead, is it?—It is no good; it is stagnated.

2651. Then it must float for a certain time before it sinks?—Yes; and then it floats about to find a place to fix hold; and if it fixes hold when the weather is suitable it will go on.

2652. Oysters do not breed every year, do they?—No, we do not get them every year, but they throw their spat every year. They do not come to perfection.

2653. Is that chiefly, do you think, from cold or what?—Yes, cold nights and lateness of season; oysters are forward this year.

Mr. Mallock.

2654. How old is an oyster when it is fit to eat?—We have sold them at four years of age.

2655. Not less than that?—No, not less.

Chairman.

2656. You might sell these oysters to-day, might you not?—I do not know.

Captain ABSALOM ANDERSON, re-called; and further Examined.

Chairman.

2657. CAN those French oysters which you see on the table now, which have come out of the Medina river, be legally sold during the close season in England?—By the late decision of the Court of Appeal, yes.

Mr. Robert Price.

2658. That is the second generation, you
0.93.

Mr. Robert Price—continued.

understand; this is the progeny, the result of the 1889 spat, and it has been four years in the Medina river?—Then I should say, under those circumstances, they cannot be legally sold.

Sir Albert Rollit.

2659. Do foreign oysters, Portuguese and French, alter their characteristics when they are laid
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Captain ANDERSON.

[Continued.]

Sir Albert Rollit—continued.

laid down. Whenever they are laid down can you distinguish a foreign oyster from a native one?—Assuming you lay a French oyster down and that breeds, the young ones will partake of the characteristics of the English oyster, and particularly in their third or fourth generation, that is, their shell becomes assimilated to the English oyster, and the fish gastronomically is very much superior to the French oyster.

2660. Could you still distinguish a foreign oyster so treated from the native oyster; do they

Sir Albert Rollit—continued.

keep their characteristics?—Yes, there is a very fine line dividing them, and it would require an expert, in the third or fourth generation, to say which was really the progeny of the French oyster, and which the progeny of the native oyster.

2661. But an expert can do it; they still retain the characteristics which distinguish them, do they not?—Yes. I followed Mr. Oatley's evidence, and I think he misunderstood your question.

Captain GEOFFREY L. AUSTIN, called in; and Examined.

Chairman.

2662. ARE you the principal proprietor of the Seasalter and Ham Oyster Company at Whitstable?—Yes.

2663. Is that a very large business?—It is a very large business; one of the largest in England.

2664. Are you in the habit of importing a large number of French oysters?—Yes, a very large number.

2665. Do you work upon oysters which are bred in your own waters at all, or are all your oysters imported?—Oh no, we have natives and Irish oysters too.

2666. Do French oysters spat in your waters?—Yes, I believe so.

2667. Can you distinguish between the progeny of a French oyster, and the progeny of a native?—No, nor any other man, scientific or not, and I will give you the reason for it. Of the spat that occurs on the Whitstable Flats you cannot tell one from another in any way. On one part of the flats every oyster is a perfect native oyster, but if you get them lower down on other parts, further out from the coast, they are a coarser oyster. They are all alike, and there is no difference in the spat, and you do not know whether they have come from a native or a French oyster.

2668. With regard to this particular point we are discussing, what is your practice as to the re-laid French oyster which you sell during the British close season?—We import them in March and April, lay them down, and we sell as many as we require during the close season for English oysters.

2669. Do you sell them during the months of May, June, and July?—Yes.

2670. You have heard the evidence we have had with regard to the condition these oyster are in, during the close season, have you not?—Yes.

2671. Do you agree with that evidence?—No, I do not agree with it at all, for this reason: I have made inquiries and I estimate that there are about 60,000,000 oysters sold during the close time for English oysters, that is from the 14th of May to the 4th of August. The amount realised by the sale of these oysters is about 250,000*l*. An oyster is not like bread and meat, a necessary, he is a sort of luxury; and it seems to me perfectly marvellous how anyone can come and say that people will go on year after year, eating millions and millions of these luxuries that

Chairman—continued.

are not fit for food. There is no single case of any injury to health from eating them, which has been brought forward.

2672. But I want to know if you maintain that these re-laid French oysters are not in spat during these months?—Oh no.

2673. They are in spat are they?—They are in spat.

2674. Then may I ask why, if it is desirable to prohibit the sale of native oysters when they are in spat, it should not also be desirable to prohibit the sale of French oysters which are in spat, and which are taken off exactly the same grounds as the native oysters are?—Because I take it in this way: The object of a close time has nothing whatever to do with the goodness or the unfitness of the oyster for food. The close time is put on English oysters with the view of benefitting the English beds, and not with regard to as any matter of health.

2675. In order to increase the chances of a successful spat, do you mean?—Yes.

2676. But then the spat coming from these French oysters which are laid there would be just as useful for replenishing these English beds, according to your own statement, would it not?—Yes. But what I maintain in opposition to that is this, I do not know what evidence the Fishmongers' Company have given; but the only two reasons they have given are that these oysters are unfit for food.

2677. On that point I should like to ask you this question. Do you consider an oyster that is either about to spat or has recently spat, fit for food or not?—Perfectly fit for food.

2678. Would you eat it yourself?—That is another matter. I do not eat oysters in the summer time at all, spatting or not spatting, but the proof that they are fit for food is that millions and millions are eaten every year.

2679. They are eatable you say?—Yes.

2680. But a thing may be eatable, and not exactly tasty?—Yes.

2681. And therefore you can hardly call it fit for food, can you?—Fit for food and tasty are different things. You may buy a very thin chicken and he is not good for food, but he is perfectly fit for food.

2682. But he will not hurt you, will he?—He is fit for food, at any rate.

2683. Then your case with regard to fitness for

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Captain AUSTIN.

[Continued.]

Chairman—continued.

for food is not a very strong one is it?—It is good enough; people want them and eat them.

2684. But you would not eat them yourself you say?—That is another matter; many people do not eat oysters. If people did not like them they would not eat them.

2685. I quite admit that. That is the one part of the case brought forward, that these oysters are not seasonable?—The other reason, if you will allow me, is that foreign oysters are sold in the close time as English oysters. It is perfectly well known to everyone interested in the oyster trade that these French oysters are sold as English oysters, not only in the close time but in the open time, and how that can do any injury to English beds I cannot conceive. If English oysters were sold as French I could understand it.

2686. But surely if you allow during the close time French oysters to be sold as English natives, you put a premium on the selling of real English natives, as natives too, during that time, do you not, therefore if you allow this one class of oyster to be sold off your beds, when the other is prohibited, do not you give encouragement and inducement to sell that sort of oyster which you prohibited the sale of by law?—No, none whatever, and for this reason. All the oysters that are sold in the summer time are a cheap sort of oyster, about 4s. a 100. You cannot buy an English oyster for anything like that sum, not even to lay down. We are at present giving for oysters for laying down purposes, as much as 12s. a 100. I have never known an oyster, out of all the millions that we have sold in the close time, sold above 5s. a 100, therefore it does not open the door for selling English oysters, because we give the English fishermen more to lay them down than we sell them for in the summer months. Therefore it does no injury to the beds in that way. There is no difficulty in distinguishing an English from a French oyster at any age.

2687. You have a sea fishery committee I believe in your district?—Yes.

2688. What are the views of that committee on the subject?—That committee is entirely opposed to a close time being established. When the Fishmongers' Company prosecuted Mr. Williamson for selling these oysters in the close season, a meeting of the local fisheries committee managing the Kent and Essex district passed this resolution: "That in the opinion of this committee, the sale, in the summer months of foreign oysters temporarily laid down on English beds, falls within the exception I. of Section IV. of the Fisheries (Oysters, Crab, and Lobsters) Act, 1877, and is beneficial to the fishermen and others of the Kent and Essex district; and that a letter be written to the Fishmongers' Company, stating that such is the opinion of this committee, and deprecating any further action on their part in enforcing the late decision of Mr. Alderman Phillips." I may say that we had a meeting on Monday, and I was deputed to come here and confirm that view entirely.

2689. Do you consider that this summer sale of French oysters has caused any injury to the English beds?—None whatever. I think it has

Chairman—continued.

not caused injury in this way; as I have explained, the English oysters are so much more valuable; if you keep them till the open season you can get 9s. and 10s. a hundred for them, and people will not sell them in the close season for 5s. even surreptitiously. It would not pay them to do it. At some out of the way place, such as the Welsh coast, there might be a hundred sold.

2690. Would you agree with the opinion that the English beds have been greatly depleted of recent years?—Yes, there is no doubt about it.

2691. You do not think, I understand, that the establishment of a general close time would do anything towards improving the condition of the English beds?—I think not, for this reason, I have a list here, and on our beds at Whitstable for the last 10 years, according to our books we have had an average of 27,000,000 of oysters.

Commander Bethell.

2692. Taken off your beds or put into them?—Laying on our beds. The Whitstable Company have a similar amount I should imagine; anyhow, they have a very large amount. We have had no spat to speak of since 1859, therefore it is not the over-dredging that is the cause of the want of oysters. This enormous amount of oysters is laid within a space of two miles, and we get no spat and have had no spat. Of course if you catch your oysters and eat them you cannot have them, but Whitstable has always been a great stumbling block with regard to the view of over-dredging being the sole cause of the scarcity of oysters; and the consequence is, they get over that by saying that Whitstable is a very good fattening place and no good for breeding. There is not a particle of reason for their saying so. We have had just as large spats in Whitstable as anywhere else in England, and now in Essex they get spats every year, and no where else is that the case. They say the water is not dense enough for breeding, but Professor Dean, who has been in this country from America for the last two years studying oyster culture, has proved that the water at Arcachon, and where they get any brood, is less dense than in other places where they have failed entirely, which goes entirely in favour of Whitstable being a good place for breeding.

2693. Would your contention be that the prohibition of the sale of these oysters would be the means of stopping the employment of a number of men?—Yes, a large number, and you would be doing an injury for no possible use. May I state a case in this way: My own company, say, sell a million of oysters in the summer and sell 4,000,000 in the open season. To supply this demand I import 5,000,000 oysters. If you enforce this close time I shall no longer import this 5,000,000, I shall import 4,000,000 only, because I shall lose my summer sale, and shall import that number less; therefore the beds will have no more oysters upon them than they have now. The beds will not benefit in any way. In fact the beds will be at a loss, because a certain number of this 1,000,000 that I sell in the summer time spat, and the beds get the benefit, if there is any benefit from it, of the spat of the 4,000,000, and a large number of

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Commander *Bethell*—continued.

the 1,000,000 that are sold in the close time. Therefore you actually get a better chance of getting a spat from these oysters, if the sale is allowed, then if it is stopped. Another thing, in Essex there are a large number of small planters who import 200,000 or 300,000, entirely for the summer sale. If a close time is enforced their industry will be at an end, and practically destroyed.

2694. What would you say to doing away with the close time altogether for oysters?—I should advocate it in every way.

2695. Would you throw these months open for British as well as foreign oysters?—I think it would do no harm. I do not think it would do any good or harm. We have had close times for the last 15 or 16 years; it has not done one particle of good, and there is no evidence to show it has done any good. We have had in Ireland close times and every sort of regulation for years and years past, but the Irish fisheries are practically extinct. None of these regulations that I know of have done any good whatever, and they have never been proved to have done any good. Where a close time is of any use the same as it is in the estuary of the Thames, that close time is practically enforced and kept by the fishermen themselves. There was no close time in the estuary of the Thames from 1868 to 1877, but there was a close time kept just as strictly as it is now.

2696. Do you attribute the decline of the British oyster beds simply to unfavourable climatic conditions for spatting?—Yes, to nothing else. I have bred them in ponds and in various ways. Of course there are a few bred every year no doubt, but it is so very small in number, that it practically makes no difference to the breed whatever.

2697. Do you think it would be perfectly safe so far as oysters are concerned, to do away with all regulations and limitations whatever?—I think so; I think it would do no harm and do no good. In France they have abolished a close time; in America they have a close time for public beds but no close time for private beds. Except in two States in America you can sell all the year round. This close time which is proposed to be enforced really affects private beds only. There is one thing I think people do not realise exactly, and that is this: they tried exactly the same system that they carry out at Arcachon and Auray, at 12 places in France; in 10 of those the system was a total failure and has been all along the northern coast of France. The only two places where it has been successful are at Auray and at Arcachon. That arises no doubt from some conditions of which I know nothing, and no one else. People have their ideas, but have no knowledge of it, and I say, by enforcing this close time, which is proposed by the Fishmongers' Company, you will be destroying a large industry which I say amounts to a quarter-of-a-million a year very nearly, and gives employment to numberless people, principally of the working class. These oysters are sold almost entirely in seaside places by barrow-men as they are called. You will therefore be destroying this industry entirely, and for practically no benefit whatever.

Sir *Albert Rollit*.

2698. Assuming that you are wrong in thinking that a constant open time would be desirable, are there any objections which apply to the sale of native oysters in that time which would not apply to imported oysters?—There are no objections to it that I see, because it would have no effect.

2699. But assuming you are wrong on that point; I do not say you are; can you distinguish between the case of native oysters and foreign imported oysters?—No, I see no difference, and I see no benefit that a close time would have. If people wish to deplete their beds and sell their oysters they have ample time to do it in the open season.

2700. But should not the close time apply as much to the foreign imported oyster as to native ones?—Possibly it should.

2701. So that if it were right to have a close time at all, the advantage would apply to the foreign imported oyster, as well as to the native?—Yes; but I might remark that there has been no instance proved in which there has been any quantity of spat arising from the French oysters. When I say spat I mean small oysters fixed and flourishing.

Chairman.

2702. That was a point upon which the last witness spoke very confidently, and told us the reverse?—But they were in a pond. I have bred them myself in ponds, thousands and millions of them, and brought them up to maturity; but that is entirely artificial. I have bred these oysters myself; I know the place where it was done, and all about them. We have tried to breed, and I am trying to breed in ponds this year, but the spat only occurs about once in twelve years.

Sir *Albert Rollit*.

2703. But oysters can be bred under all conditions, can they not; they have been bred in cellars constantly, have they not?—Yes; I think you have done so yourself.

2704. The various conditions are enormous as to the conditions of breeding, are they not?—Yes; no one has any knowledge as to what the conditions are; not even scientific men.

2705. With regard to the distinction of oysters of the third or fourth or fifth generation, could not an expert distinguish the mature oyster (I do not mean the spat) even at that length of time?—No.

2706. You do not think so?—No; he would not have the smallest chance of doing it.

2707. Do you venture to say that in your firm opinion, there is no distinction whatever that a naturalist could determine?—I think not, not between a French and an English oyster.

2708. Or a Portuguese oyster?—Yes, they are a different species altogether.

2709. In the case of the Portuguese oyster, you think there would be no difficulty?—No.

2710. Can you tell me if there is a close time in Portugal?—I could not say. Portugal I did not think of. It is a country which is of very little moment, or affects us as regards the trade. These Spanish oysters all come from Arcachon I think, very few come from Portugal.

2711. Is

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CAPTAIN AUSTIN.

[Continued.]

Sir Albert Rollit—continued.

2711. Is there a continuance of the export from America to the French beds at present?—I think not. I have never heard of any American oysters imported into France. I have never seen or heard of one.

2712. Are they imported here direct?—Yes.

2713. In large quantities?—Yes.

2714. The first system was to import them, and lay them down at Granville I think; I think that was the first port to receive them from America, and they came from here?—I never heard of any being imported to France.

2715. It so happens that the first cargo that came that way, my firm brought from America?—Yes, no doubt, but I do not think it is a business to any extent.

Commander Bethell.

2716. As I understand, both from you, and Captain Anderson, there has been no considerable amount of spat since 1859?—No.

2717. Do not you think that tends to show that there must be something that people do not understand about the breeding of oysters, in order that such a condition of things should have held for so many years. Do not you think it very likely that oyster companies and people who take oysters are doing something they ought not to do?—No, I think not; it simply means that nobody knows anything about oysters. It has been the case from time immemorial. I should very much doubt whether the oldest man in Whitstable can recollect three spat of any considerable dimensions.

2718. Are you inclined to think that the period or the cycle is about 20 or 25 years?—No. The last decent spat before the large one of 1859, I think, occurred in 1843 or 1846. I am not quite sure which year it was. Then there was something like eleven or twelve years before that again, but in those intervals there was little or none.

2719. Has that been the result of observations all over the world, where these things are taken?—I do not know. I do not think there were many observations made, to tell the truth.

2720. Had not scientific people given their attention to this question?—I think not.

2721. To an outsider it appears from the evidence we have had, and it would strike one, there must have been something very wrong or foolish done?—This scarcity of spat is universal. It is not in one place or two places, it is all round the country; and it is just the same in France except the Arcachon and Auray district; there is no other place where they get any spat in France.

2722. With reference to your observations upon a close time, do you not think that, *prima facie*, it would be much better there should be a close time for all sorts of breeding creatures; and do not you think that a case ought to be made against having a close time rather than a case made for enforcing a close time?—I do not know what the scientific gentlemen are going to say, but Professor Huxley is at the top rung of science, and he is entirely opposed to close times. He says they are perfectly useless. He said so at the Fisheries Exhibition of 1883, and

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Commander Bethell—continued.

I have no doubt would say so now. What he said in 1883 has turned out to be perfectly true. All these close times lead to crimes and offences committed by the men, and they have been proved to be practically useless.

2723. Is not that rather a dogma of yours?—I do not think it is a dogma at all. I think it is the fact; it is the practical fact and not a dogma of mine in any way.

2724. We have had a good deal of evidence the other way?—That a close time has been of any use?

2725. I speak generally?—If I could cross-examine the witnesses I should have asked them to produce a single case in which a close time has been of any benefit. I think they would fail. I know of no case myself and I think I have studied oysters as much as most people practically.

Colonel Cotton-Jodrell.

2726. With regard to the observations which have been made as to the lack of spat, in the years when there has been a good supply has it been traced in any way to a hot summer or warm spring or any thing of the kind?—It has not been really proved I think. People believe that you want heat because where they get spat. In Holland, for instance, the waters get up to 68 and 70 degrees and a little above. It does the same at Arcachon and Auray; but at the same time there are many places where it gets to that heat where there is no spat; and again in Essex where the water does not sometimes reach that temperature they have more or less spat.

2727. Are there any indications this year of any spat?—None whatever.

Mr. Kearley.

2728. I understood you to say that in your opinion the close time is merely advantageous for breeding purposes?—I can see no other fancied benefit which can arise.

2729. Do you consider an oyster injurious to eat at that particular period?—Not in the least. I think that is proved by the fact that millions of these oysters have been eaten year after year for years past.

2730. You say these imported oysters that are sold in the close season are sold at very low prices, do you not?—Yes.

2731. Does not that almost pre-suppose that they are recognised as an inferior article at that particular period of the year?—No, because in many instances we have to sell them in the open season afterwards, quite as cheaply or cheaper.

2732. The same oyster?—The same oyster in the open season is sold very frequently at the same price. These French oysters are delicate and will not stand the Winter, and if planters have much stock left in hand they will sell it for little or nothing, rather than run the risk of losing it.

2733. Do I understand you to say that French oysters are sold in the close season as English oysters?—That has been done no doubt. You will see the notices in the shops. There was a notable instance a little while since announcing "Whitstable natives, fresh daily."

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2734. What

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CAPTAIN AUSTIN.

[Continued.]

Mr. Kearley—continued.

2734. What are the authorities doing, do you think, to allow an English oyster to be exposed as such during the close season?—I do not know. The authorities would have to prove that they were English.

2735. Is not the mere fact of offering an English oyster for sale an illegal act, or should not it be made so in your opinion?—I do not think a jury would convict.

2736. Then you say there is no temptation to sell English oysters in the close season in consequence of the price being so low?—Yes and practically they are not sold. Those that are caught are sold to the owners of private beds to lay down. Of course I do not mean to say that on the west coast of Wales or in any out of the way place, if a fisherman catches oysters when trawling, he would not sell them, but he would not sell them as foreign oysters. I do not mean to say such a thing is absolutely unknown.

2737. You think that would be so insignificant that it is not worth while talking about, do you?—Yes.

2738. Let us assume that the prices were much higher for these imported oysters would not there be a temptation then for English people to get the benefit of a sale in the close season at remunerative prices?—I think it would be practically nil, because the English oysters on public beds now are so scarce that there is practically no dredging for them; and you cannot catch any quantity except by dredging. You catch a few oysters in shrimp trawling, and that sort of thing, but practically there is no dredging for them. If they did so I think it would be a far better way to stop that by prosecutions by the police than to destroy a large industry like there is in the sale of these foreign oysters, for the purpose of protecting a very small part.

Major Jones.

2739. But you are against a close season of any kind anywhere are you not?—I am against them so far that I think they have been tried for years and years, and I have never heard of any benefit accruing to anybody from a close season.

Mr. Kearley.

2740. In your opinion, is the cause of the decline of the English beds the unfavourable climatic conditions?—Certainly that is the cause of the want of production.

2741. Do I understand that this great spat we have heard about in 1859 was quite exceptional?—It was a very exceptional spat.

2742. Fish spat every year, do they not?—Oysters breed every year.

2743. But the spat does not germinate?—The spat, apparently, as far as you can see, is perfectly good when the oyster throws it from the shell, and it floats about, but it never comes to anything. It never fixes, and never gets fixed on anything, and if it does, it dies off.

2744. Has any suggestion been made by anyone experienced in this business as to what were the favourable conditions in 1859?—Mr. Frank Buckland, who, of course, was the authority, said it was heat and tranquility; that was his

Mr. Kearley—continued.

theory; but Mr. Buckland did not know, nor any one else, I am quite sure.

2745. The heat, I suppose, would be at the very period when the oysters were spatting?—Apparently. In Holland, they never look to get any spat fixed unless the water is up to 68 Fahrenheit.

2246. Was the Spring of that year, 1859, a very fine one?—I do not know.

2747. Is it on record, do you know?—I believe it was a very hot summer. I have been trying oyster experiments for the last 20 years, in various ways, and have spent a good many thousands of pounds in doing so. You get a certain result one year, and the next year, with apparently precisely the same conditions, as far as can be seen, certainly, of weather and temperature, and so on; the results are precisely the reverse.

2748. Has no one been able to diagnose the cause?—I think not, in fact, I am certain not.

2749. Do you know anything about the American fisheries?—Not much, personally.

2750. Have you ever visited them yourself?—No.

2751.—Do they catch enormous quantities there?—Yes, but they are getting rapidly fished out, I think.

2752. Have they oysters quite as good as our native oysters?—They think so, but we do not. English people do not, because they give 28s. a hundred, for natives, and 4s. for Americans.

2753. There are some very fine oysters in America, are there not?—Yes; but they require cultivating, and are of a smaller species altogether.

2754. But the American oyster that comes to this country is not representative of the best oyster they produce, is it?—No; I think not.

Major Jones.

2755. Do you consider that the French oyster is approximately as good in flavour, and as good an article of diet as the English oyster?—It is just as good as an article of diet, but it is not so good as an English oyster by any means.

2756. Is it inferior in flavour?—Yes; it is inferior in flavour. After being on English beds for three or four years, he becomes nearly as good as a native, but he never reaches the character of a native. He reaches it in size and shape, when oysters get old they begin to grow deep, and round, and very plump. Their bodies grow, but their beards remain stationary, and they become in form and appearance as good as a native; but they never get the same flavour.

Mr. Kearley.

2757. Not quite so good?—No.

2758. But it improves, does it?—Yes, certainly.

Mr. Robert Price.

2759. You said you did not think a close season was of any value, and, of course, obviously unless the spat is going to germinate, it does not matter much about destroying the fish when they are pregnant, but when the happy season comes when you get a good spat it would become largely important not to have destroyed the

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Captain AUSTIN.

[Continued.]

Mr. Robert Price—continued.

the oysters that were pregnant, would it not?—It would in this way: it has not that effect really, because you can never dredge an oyster bed clean; it will not pay. You always get to that level when it does not pay to dredge it, and I say, and am backed up by authorities, that there are always enough oysters on an oyster ground left to produce a good spat.

2760. But still there would be less spat about of course if you have destroyed the oysters?—Of course I am not going to argue, you cannot get more spat from 20 oysters than from one.

2761. With reference to the questions asked

Mr. Robert Price—continued.

you by Sir Albert Rollit, as to whether the same argument does not apply with regard to prohibiting the sale of fish you import from abroad, I presume it is the fact, is it not, that you import the fish for your own advantage and not for the national benefit?—Certainly.

2762. And if you were not going to be able to sell them for your advantage, you would not import them at all?—No. There is a vast difference between stopping the sale of these imported oysters, which are merely a matter of buying and selling, and dredging your common beds or your public beds to sell them.

*Mr. JOSEPH EDWARD RICHARDSON, called in; and Examined.**Chairman.*

2763. You are Deputy Mayor of Brightlingsea, I think, are you not?—Yes.

2764. Have you a number of small oyster importers there?—Yes.

2765. Have you a statement which you would like to read to the Committee?—Yes.

2766. Will you kindly do so?—I, Joseph Edward Richardson, of the town of Brightlingsea, 63 years of age, have been in trade as oyster merchant and planter for 42 years. During the former years I was mostly engaged in planting and cultivating native ware for the Kentish trade, buying my stock from the public dredging ground at the estuary of the Blackwater, Essex. In course of time native stock failed, and I was then compelled to turn my attention to buying and planting second-class oysters. I stocked my grounds from the following places:—Inverness, Leith, Bosham, Portsmouth, Jersey, Swansea, Dublin, Arklow, Belmullet and other places. Each and all of these oyster grounds were under strict close time all the summer months, and yet so far as a supply of the smallest quantity of oysters is concerned they are all out of existence. I supplied my trade with these second-class oysters principally, until the year 1880, when my supply from those towns failed. From the year 1880 up to the present time I have been compelled to draw all my stock and supply from foreign oysters, Americans, Spanish, and French, for sale during the summer months. And in all the years of my experience I can truthfully say that I have never seen an American oyster spawning or in the slightest way show any indication of spawning or sickening, and I do not believe it is possible for American oysters to spawn in our British waters. The summer months is the time when the stored foreign oysters are in their best and finest condition, and have recommended themselves to the British public, so that it is grown up to a very great trade. Liverpool imported in one year from America no fewer than 122,498 barrels, averaging 1,200 oysters in each barrel. Five hundred men are engaged in the trade during the summer months at Blackpool, and one firm alone averages its wage-sheet, at Cleethorpe to amount to 2,000*l.* during the summer months. I represent, from Brightlingsea a small area; thirty merchant planters,

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Chairman—continued.

some of them employing 10 men, and the quantity of foreign oysters stored about fifteen millions, all for summer trade. I believe to stop the sale of foreign oysters in English waters during the summer months, or for any time, would be ruination to hundreds of oyster planters, would throw thousands of honest aged men out of work, probably to fall on the parish; would stop the circulation of hundreds of thousands of pounds in commerce, and would deprive the public and all pleasure-seekers of a healthy, pleasant, and nutritious food.

2767. Are you in the habit of eating these foreign oysters during the summer months yourself?—Yes.

2768. Do you find them in good condition, and fit?—Yes.

2769. And not watery?—No.

2770. Is that the case with the French oyster?—The French I am not so versed in.

2771. You only speak of the American and Portuguese, do you?—Yes.

2772. Do you know they are of a different species to the French oyster?—Yes.

2773. Would your opinion also hold with regard to the French oyster?—In what way?

2774. Would you object to a close time for the French oyster?—I should not be in favour of a close time at all.

2775. Would you throw the beds open, whether British or foreign?—I do not think I should for natives, because the quantity of natives is restricted; but the quantity of foreign imported is not restricted. We have more foreigners to put into the market.

2776. Do you believe that an oyster about to spat, or that has just spat, is perfectly good for human food?—I never saw an American oyster spating.

2777. I am not speaking of the question of Americans. I am putting Americans and Portuguese on one side, and I am speaking of other oysters generally. Would you like to eat a native just about to spat?—No.

2778. You would not do it, would you?—No.

2779. Would you eat a French oyster about to spat?—I do not think I should.

Mr. Kearley.

2780. You would object, you told the Chairman, to eat a native oyster or a French oyster about

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Mr. RICHARDSON.

[Continued.]

Mr. Kearley—continued.

about to spat?—Yes; because of course the native oysters are closed. It is a close time when they are spatting.

2781. Do I understand you to contend that the oysters which you import, the Portuguese and American oysters, are not in a similar condition to these oysters in England which are protected by a close season?—I do not quite follow your question.

2782. I will put it in another way. We have a close season in England for the particular purpose of enabling these oysters to breed; is not that so?—Yes.

2783. Are the oysters that come from America, or do American oysters and Portuguese oysters spat at similar periods of the year?—I never saw them; I never saw an American oyster spat.

2784. Is there no evidence to prove their spatting time. I presume there must be evidence to prove what is the spatting time of American oysters and Spanish oysters. Have you ever heard what is their spatting season?—Do you mean in America or in England?

2785. No, in America?—No doubt it is in the summer time.

2786. You think it is the same time, do you?—I should think so.

2787. Then how do you account for the fact, speaking from your own point of view, that the oyster which comes from America, or from Spain, at the same time of the year, is perfectly palatable to you, and yet you would not risk the experiment of eating an English oyster at the same period of the year. Do you think the sea voyage alters their condition?—No, the question was put to me whether I would eat them when in a sickening state; and an oyster is not always in a sickening state at the same time of the year, some may be sick and some not. They are not all sick, but some may be; and I repeat I have never seen an American oyster sick or in any way tending towards it, and I have opened them every day in the summer and eaten a few.

2788. May I take it, if in America you were asked to partake of an oyster about to spat, you would partake of it?—I should take them if I saw them, and found they were not in full spat.

2789. Would that apply, as regards yourself, to English oysters?—Yes.

Mr. Kearley—continued.

2790. Then there is a period, you think, in the spatting and after the spatting, in which you would eat an English oyster or an American oyster?—Yes.

2791. Then what is the period in the spatting, and after the spatting, that you would not eat an English oyster?—When I open an English oyster and see all the spat hanging round about it, I should not eat it; but if it was not in that forward state I should eat it, or if it had emitted the spawn and was filling itself up a little, I should eat it then.

2792. It would be by observation that you exercise your own judgment, would it?—Yes.

Dr. Tanner.

2793. Can you give us any information about the failure in connection with the native oysters?—No, no more than the other speakers have done; the climatic influences and the water being too cold and so on. We have had more native spat in our river three years back than there has been for the last 30 years.

2794. Is it not the fact that the American spat imported does very well?—You mean the American oysters imported?

2795. Yes?—Yes, they do.

2796. But that the English oysters do not do so well either at Colchester or down at Whitstable, is that so?—We do not work them at all in the summer time; we do not try to.

2797. You know nothing about Irish oysters, do you?—Yes, I have had a good many oysters from Ireland in my time, but not lately, because there are none.

2798. Where do you get your oysters from now?—Mostly all from America and Spain.

2799. None from Ireland?—No, none from Ireland.

2800. Are you aware of the fact that Irish oysters go to France, to Arcachon?—No, I had agents in Arklow a few years ago when they were to be bought there, and from Belmullet and from all over that part.

2801. But you know nothing, I understand, about Irish oysters or Irish spat being laid?—No, nothing.

2802. The evidence you have given, I understand, has been mainly in connection with foreign spat?—With foreign oysters.

Mr. SYDNEY BARBER called in; and Examined.

Chairman.

2803. I think you have a statement drawn up by the Oyster Trade Committee which you wish to bring before the Committee?—That is so.

2804. If you will hand it in it shall be printed as an appendix?—Shall I read the latter part of it on the subject of which we have been speaking?

2805. As I understand, the statement is drawn up on behalf of the Committee, is it not?—Yes, they all agree with it. (*The statement was handed in.*)

Mr. Robert Price.

2806. Are you against the way in which the case was decided in the High Court?—No; it was decided in favour of the trade. The question was as to the legality of the sale of these oysters in close time, and the court decided in favour of the trade, and against the Fishmongers' Company's contention.

2807. You represent the trade, do you not?—That is so. I am Hon. Secretary of the Oyster Trade Committee.

2808. Are

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[Continued.]

Chairman.

2808. Are you engaged in this trade yourself? I have some oyster grounds at Brightlingsea in Essex, and I buy and sell oysters on commission at Billingsgate Market.

2809. Do you generally agree with the evidence we have heard from Captain Austin and Mr. Richardson?—There are some things I should like to call the Committee's attention to. One is with reference to the question of the oysters in spawn, as it affects the public.

2810. Do you mean as a question of the wholesome food?—Partly that and partly the way the thing works. If I have two lots of French oysters in my ground at Brightlingsea, in the summer time I go and have a look at them and open 25 or so of them. If I find there are only one, two, or three oysters in spawn, I go on selling them.

Mr. Robert Price.

2811. You mean two or three out of 25, do you not?—Yes, that is if the number in spawn is very small. If I come to the next lot and find a larger proportion, something like 15 or 20 per cent., enough to prejudice the sale of them, I say, "We will let this lot be." The reason of that is not from any consideration for the public, so much as the fact, that if I sell these oysters with a large proportion of them in spawn to my customers, who have to open them, they would all complain very loudly about the waste, because they would have to throw out so many. As a matter of fact, the public do not get the oysters in spawn at all, because when a man opens oysters in a shop and comes to one that is spawny, or thin, he throws it on one side and opens another.

Chairman.

2812. What proportion of the oysters are in spat?—It depends on the heat of the season. In very hot weather more of them spawn than at other times; but I never knew them all spawn.

2813. Would you agree that an oyster just having spawned or about to spawn is a desirable thing to eat?—The question is not whether it is desirable, but whether the public gets it. Our contention is the public does not get it.

2814. I want to know if you think it desirable food?—I should say if a man ate a bushel of them, so long as he did not eat the shells it would not make any difference to him. There is no difference whatever between an oyster in spawn and an oyster not in spawn, except that one is not so fat as the other. There is nothing deleterious or poisonous about it.

2815. An oyster that has just spawned is a very thin, watery, insignificant thing, is it not?—It comes under the same category as a thin oyster. They are all thrown out, so that the public does not get them, and I do not see that they are in any way hurt.

Colonel Cotton-Jodrell.

2816. That is if they are opened in the shop; but if you take your oysters home, what then?—You can easily see if an oyster is in spawn.

2817. What would you say to doing away
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Chairman.

with the close season altogether, as far as natives are concerned?—I think close times of any sort are a mistake.

2818. Would you do away with them altogether?—Yes. It works in this way: the minute you shut up an oyster fishery it begins to get foul and dirty, gets smothered up in mud and filth, starfish, and mussels, and whelks; and the result is if a spat comes the things are nearly all destroyed; they fall into the mud and get smothered. To my mind, it is entirely a question of cleanliness both with native and foreign oysters. They spawn more or less each year, but on account of the dirty state of the bottoms of our rivers, and of course, in addition, the cold summer seasons we have had lately, the spat does not live.

Mr. Kearley.

2819. You say that in your opinion the reason that the spawn now fails is owing to the uncleanness of the beds, brought about by the close season?—Yes, and the long time which has elapsed now since there has been anything like a fall of spat. At Brightlingsea when I was a boy they had not the slightest idea of the failure of oyster spat at all. They never expected such a thing.

2820. Do I understand that at that time there was no close season?—There was no close season.

2821. If I understand you correctly, you contend that the close season causes the beds to become unclean, and, consequently, when there is a fall of spat it becomes smothered, and dies; is that it?—Yes; that and the cold weather together. We have had a close season for native oysters now for 15 years, and the price of native oysters is 28s. a hundred, wholesale.

2822. You have heard the evidence given by the other witnesses, I believe?—Yes.

2823. Have you heard them say that the frequency of the spawning is at intervals from 15 to 20 years, and that that has been the experience for the last 40 or 50 years?—There are a few oysters every year; but what is called a spat is when there is a general fall all over the place. We have not had a good spat since the one in 1859 which we have heard about to-day.

2824. Even prior to that it was very infrequent, was it not?—No; it was fairly steady.

2825. And it has only failed since 1859, you think?—1859 was the last good spat they had.

2826. Can you tell me the year that the close time was introduced?—1877.

2827. How do you account for the infrequency of the spatting from 1859 to the year 1877?—I account for it partly by the cold summer seasons, and partly from the dirty state of the bottoms of the rivers.

2828. I understand you to be arguing that a close season causes the rivers to become foul?—Yes. After 1859, which was the last good spat, the oysters left off spatting, and there was no spat next year. They did not, however, leave off selling oysters; they went on catching the oysters until, in the course of a very few years, they cleaned out the best part of them. Then when they got to so few, people let them
alone,

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Mr. BARBER.

[Continued.]

Mr. Kearley—continued.

alone, and then the places got smothered up with mud and rotten weeds, and there was an end of the oyster fishery.

2829. But the leaving the ground alone would not occur immediately after the failure of the spat in 1859, would it? The ground would continue to be worked for some time after that?—The spat of 1859 lasted them several years, of course, and was not worked out, perhaps, for five or six years.

2830. And the grounds were being worked all the year round, were they not?—Yes.

2831. And yet in spite of that the spat failed, did it?—There is no doubt whatever that the spat failed at first, because of the cold summers, just as these French oysters spawn when the water is hot and not when it is cold.

2832. You do not contend, do you, that the failure is entirely due to the close season, during which the rivers get foul, but that it is due to climatic reasons?—I think the two together.

2833. But to some extent you think the close season is responsible, because during that period the rivers have been neglected?—Yes, that is so.

Dr. Tanner.

2834. You have already stated that the foulness of the bottoms of the rivers helps to prevent the oyster living, have you not?—It helps to prevent the spat which falls in the summer-time from living; it is smothered in the mud and dirt.

2835. Are you acquainted with the Irish rivers and estuaries?—No, not much. There are very few oysters there now, but there used to be plenty. All the old Irish oyster fisheries are things of the past. They have all gone in the same way, owing to neglect and the failure of the spatting, and they never will be any better until somebody takes the trouble to clean the place all up, and make a clean bottom for the spat to fall on.

2836. Are you aware of the fact that Cork harbour is full of oysters?—No, I am not aware of the fact.

2837. Are you aware that when the anchor of the old "Revenge" was heaved up, the crew absolutely got sick through eating too many oysters?—I should think it is very likely, if they got them from an anchor.

2838. Can you give us any opinion about Irish oysters?—I think the same explanation applies to the whole of the oysters.

2839. You say there are none to be had, do you?—No, or I should have them myself, and I cannot get any. I should be very glad indeed to get any quantity.

2840. Of course you know about Arcachon?—Yes.

2841. Are you aware that Irish oysters are at present being exported from Cork to Arcachon?—Not now. Oysters, I am told, went originally from Ireland to Arcachon, and it was from the Irish oysters which went to Arcachon that the French breed started; but I never heard of any going there lately.

Dr. Tanner—continued.

2842. None for the last couple of years?—No.

2843. Do you know a man called O'Leary, of Cork?—I have not the pleasure of his acquaintance.

2844. I think we shall have to send for a little evidence on this point. Do you know anything about the Kerry oysters being exported there?—I have no personal knowledge about it.

2845. Do you know anything about the foreign oysters that were laid down in the estuary of Cork, the American oysters that have been sold in London?—I have never seen any.

2846. Are any of these foreign oysters that are laid down one-tenth part as good as any native product?—They are of a different class altogether.

2847. I mean your Portuguese or your Americans?—It depends which way you look at them. Doctors will tell you that a Portuguese oyster is the best of the lot. They say they contain more nutriment than the best native going.

2848. Would you eat them yourself if you were really hungry?—I have eaten thousands of them. I might prefer a steak if I was very hungry, but I have eaten a great many of them.

Commander Bethell.

2849. Your evidence is entirely in conflict with that of Captain Austin on the point of the spatting of oysters at long intervals of time. I understand you to say that when you were a lad oysters used to spat every year, or that it was expected they would?—They used to expect it, and used to get it at Brightlingsea.

2850. I also understand that you do not put down the want of success of spat to climatic conditions so much?—Yes, I put the two things together; the cold weather does not allow the oysters to spawn so much as they would, and when they do spawn the dirty state of the bottom kills them.

2851. But between 1860 and 1870, and up to the middle of 1880, and up to the middle of 1880, we had some remarkably fine warm weather, did we not?—Yes.

2852. Does not that rather militate against the theory that these long intervals of successful spatting are due to climatic considerations?—I do not say that it is entirely due to climatic considerations, but to the two things, as I have said. The warm weather did not last long enough.

2853. But you think that climatic considerations play an important part, do you not?—Yes, because the things will not spawn, except in hot weather.

2854. As far as you know, there is no other reason, except the close time and the climatic considerations, which have induced this failure in spatting during the last 30 years?—With regard to the French oysters, the case is different from natives. The French oysters are of a tenderer kind altogether. They will not stand anything like the amount of frost that a native will. When the

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Mr. BARBER.

[Continued.]

Commander Bethell—continued.

the frost comes, the French oyster is the first to go.

2855. The failure of spat has been the same in the native oyster as in the French, has it not?—There has been always a certain amount of spat amongst the natives every year, but substantially it has failed. There has been no large quantity.

Mr. CHARLES PETRIE, called in; and Examined.

Chairman.

2857. Are you engaged in a large trade in connection with American oysters in Liverpool?—Yes.

2858. How long have you been in that trade?—Seventeen years.

2859. Would you look with alarm at any proposal to prohibit the sale of American oysters in this country during the months of May, June, and July?—Yes; I should be very much alarmed if there was anything to prohibit it.

2860. On what ground?—On the ground of the size to which the trade has grown. For instance, the planting of American oysters commenced about 1874, and since then it has increased very much. At the time of the passing of the Act of 1877, there had only been a very few American oysters relaid in this country, and since then it has increased. Now there are about 130,000,000 of American oysters imported annually into Liverpool, and out of that 130,000,000 about 100,000,000 are transplanted in the beds.

2861. Whereabouts?—Cleethorpes is a large place. I myself have a bed at Fleetwood. Then Carlingford, in Ireland. Then there are some at Cork Harbour, and some at Sligo.

2862. For what length of time are these oysters generally relaid before they are sold in this country?—We begin to put them down about the 1st March and finish about the middle of May. I generally like to clear all out by about the middle or end of October, because we really only warehouse them on the shore when we cannot import direct from America when the weather is so hot.

2863. And also on account of the American close time, I believe?—The American close time is on the public grounds in America, not on the private grounds, but we could not possibly import them from America between the months of May and October on account of the heat.

2864. Then, in fact, all the oysters that you import in one spring are cleared out before the following autumn, are they?—Yes.

2865. During the time that they are laid down in your beds, have you ever seen signs of spatting?—Never; I have watched them most minutely; I go over them every week and I have never heard of or seen one spat.

2866. Unlike the British oyster, the American oyster is unisexual; is not that the case?—I have heard so; I cannot say that that is the case, and I do not think so. I think it spats in America in exactly the same way as our oysters spat here.

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Chairman.

2856. I understand that off the Essex coast there is a certain amount of spat every year, and that the Essex coast is a most fruitful spatting ground; is that the case?—Yes; they get spat there nearly every year, I think, at Burnham, and those rivers. They did down the reason as being that the water coming over the Malpin Sands makes it unnaturally warm.

Chairman—continued.

2867. You think there are male and female oysters among the Americans, do you?—Yes; I think so.

2868. That is not the case, but at any rate your view is that the transplantation to this country stops the spatting process altogether?—Yes: you see we put them into very shallow water. For instance, my oysters are all dry at low water, and these oysters come out of from 10 to 20 fathoms of water in America; so that there is a great change from deep to shallow water.

2869. Do they improve in the English waters, or fall off?—They improve very much. They fatten up very much in the summer: in fact, in the hot weather in the summer in June, July, and August, they are in the best condition.

2870. Do they take their chance or do you anything in the way of artificially feeding them?—They take their chance. If a storm comes on and they are sanded over, we rake them up and keep them clean. They do best with fresh water, and we plant them principally on the estuaries of rivers where they get fresh water.

2871. So far as you know there has been no proposal at present, has there, to extend the close time to American oysters?—I do not know what the Fishmongers' Company mean to do. From what I have heard them say to-day they say they want an absolute close season. I do not know whether that applies to American oysters or not. I know they did us a great deal of injury last season.

2872. But still there is no possibility of distinguishing between an American oyster and an European oyster, is there?—Any one can distinguish an American oyster, I think. I have a sample here of one. *This* is an oyster which has been laid in Carlingford for over two years, and *this* is an oyster which has just come from America direct by the "Campania" (*producing some samples*). The black spots in the shell of the oysters are the same although one has been relaid in Irish waters for two years; the spot has not been obliterated in any way. It is easily identified, and anybody can tell the difference.

Commander Bethell.

2873. What is the distinction?—*This* spot.

Dr. Tanner.

2874. Is that a bluepoint?—No, an East River.

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2875. Is

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Mr. PETRIE.

[Continued.]

Commander Bethell.

2875. Is the black spot a peculiarity in all American oysters?—Yes; the black spot inside the shell, and on both shells.

Dr. Tanner.

2876. Does that black spot apply to the Baltimore oysters?—Yes.

Chairman.

2877. Have you any knowledge of the foreign oyster trade, except the American oyster trade?—Very little. We do nothing in French oysters in the north of England, they prefer the American oyster altogether in the north of England. The trade employs a great number of people. We have these beds in Ireland and England, and I alone spend 4,000*l.* a year in wages on them.

2878. At any rate I understand you are here to protest against any restriction in the way of close time being placed on the oysters in which you deal?—Yes, very strongly; and I may say that I am only a delegate from all the people in the north of England who are engaged in the oyster trade.

Dr. Tunner.

2879. Do you believe in eating oysters in summer?—Yes, when they are in good condition. I eat American oysters occasionally when I go to the beds and see them opened; I very often eat them.

2880. Are you acquainted with the consumption of oysters in America. Are they eaten in America during the summer?—Yes. They open them in New York, and put them into cans of ice and send out great train loads of them as far as San Francisco. I have seen them going.

2881. Do you think any fish ought to be eaten during the time of spatting?—But they are not spatting. The American oyster does not spat at all in this country.

2882. Do you know anything about the oysters that are laid at Ballynacarra, at the back of Queenstown Island?—I have sold a lot of American oysters to a man named O'Leary of Blackrock, who transplanted them there, and I think he does fairly well. He continues to do it every year.

2883. There is a market, is there?—Yes, he sends them to England principally.

2884. Do you sell more in winter or in summer?—In summer.

2885. Why?—There are about 130,000,000 imported altogether; we transplant about 100,000,000 of those, and during the months of June and July we sell about 40,000,000 off the beds. I am speaking now of the total trade in the country. Taking those oysters at the price at which they are sold to the public, those 40,000,000 would come to about 160,000*l.*

2886. Are you aware if the French oysters, when laid down, are reproductive?—Yes. I believe they are reproductive.

2887. At Ballynacarra, the place I have told you of?—I cannot say as to that.

2888. That is the place in the Harbour of

Dr. Tanner—continued.

Cork where the American oysters are laid down, which fetch a very top price?—Yes; but they are only imported there to fatten, not to breed. The industry of the planting of these foreign oysters would not interfere with the industry in Irish natives.

2889. How much a thousand do you pay?—For what?

2890. For your American oysters?—We do not buy them by the thousand; we buy them by the barrel in America.

2891. How many would there be in a barrel?—They run from 1,200 to 1,300.

2892. How much do you pay for them?—They cost 26*s.*; they vary in price.

2893. Do you know anything about Arcachon oysters?—No, nothing.

2894. How long do you leave the oysters down to make any profit out of them?—We put them down at the beginning of March, and as soon as the barrels stop coming from America, we begin to take them up again and sell them by the end of October; that is, about two or three months.

2895. Do you think the oyster becomes really changed and better in the course of that two or three months?—It has more flavour, I think, than when it comes direct: it fattens them; they fatten up very well.

Mr. Kearley.

2896. Do the oysters get out of condition during the transport from America?—Sometimes they do if the weather is very warm, or they are not stowed in a cool place on board the steamers.

2897. Is there anything done to the barrels during the transport; they are transported in barrels, are they?—Yes.

2898. Will the oyster live without any treatment or feeding?—Yes; they are packed very firmly down, and they cannot open their shells at all.

Commander Bethell.

2899. They are packed close, are they?—Yes.

Mr. Kearley.

2900. Is there any moisture put in them?—None whatever. There is a small hole in the top and bottom of each barrel to admit of a little ventilation.

2901. Then the oyster is actually foodless the whole time, is it?—Yes.

2902. How long would it live in that condition?—It just depends on the weather. If the weather is pretty cool, and they are kept in a cool place, they would live for three or four weeks.

2903. Then you simply shoot them out into these beds, do you?—Yes.

2904. Do you pitch them out any how?—Oh, no; we spread them all over the bed; we scatter them pretty thinly.

2905. And the water, I understand you to say, is not very deep?—They are quite dry at low water spring tides.

2906. You

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Mr. PETRIE.

[Continued]

Mr. Kearley—continued.

2906. You lay them out when the beds are dry, I presume?—Yes. Sometimes we spill them out—it just depends. If our steamer comes when it is high water we spill them over the side of the boat, and rake them over when the tide goes out.

2907. You take them straight away from the ship to your beds, do you?—Yes.

2908. Do you unload them at Liverpool?—Yes. We send a great many by railway, and others are sent by boat to Ireland, and Fleetwood, and those places.

Mr. SIDNEY JOHNSON, called in; and Examined.

Chairman.

2914. Your father, I believe, was manager of the Medina Oyster Fisheries, was he not?—Yes.

2915. Are you well acquainted with those beds?—Yes.

2916. And you know, I believe, a good deal about oyster fisheries generally, do you not?—Yes.

2917. Can you give me any information as to whether an oyster which is about to spat is fit for human food or not?—I should not think it was myself.

2918. Can you give me any case of anybody becoming unwell from eating such oysters?—I have seen people sick before now from eating spawning oysters.

2919. You are sure it is from eating spawning oysters; not from eating too many?—No; they have only had one or two.

2920. And you think that it was from eating the oyster that is going to spawn?—I do.

2921. In your experience do you find these French oysters spawn when they are laid down in English beds?—Yes.

2922. Do you think the same conditions that apply to the English oyster ought to extend to the French oyster?—Yes, I do.

2923. Do you think that the close time which is enforced in the case of the English oyster should also be enforced in the case of these foreign oysters?—Quite so.

2924. Can you tell me of your own experience, any cases which prove the spatting of the French oyster?—Yes. I can prove that in 1887 there was a heavy fall of spat; I was there at the time.

2925. How long was it after these oysters were laid down that they spat?—I should think about seven days.

2926. Would you consider that those oysters were already sick when they were laid down?—No doubt at that time of the year the oysters would be sickening, and no doubt they were getting on for spawning when we received them.

2927. Then you could not consider that as proving that these oysters developed spat in British waters, could you?—They did develop it there.

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Dr. Tanner.

2909. You have no system of laying these oysters down, I understand?—In what way do you mean?

2910. You said they were spilled out?—Yes, they are spilled out over the side of the steamer.

2911. Does it matter whether they fall upside down or not?—Not a bit.

2912. How many do you lose per thousand?—We lose from 10 to 15 per cent.

2913. Is that all?—That is all; sometimes more and sometimes less, but that is about the average.

Chairman—continued.

2928. They shed it in British waters, but they developed it before they were brought there, did they not?—It would not be developed unless they brought it alive. The spawn was only in the head of the fish. Of course an oyster throws spawn off every year, and unless the water was good enough to keep the spawn alive it would not be any good.

2929. I understand these ponds are specially constructed for the purpose of throwing off spat?—Yes, for breeding.

2930. And the water is at a very high temperature, is it not?—We do not want to get it too high.

2931. What temperature do you keep it at?—62° to 68°

2932. Do you take precautions with regard to filtration and so forth?—Yes.

2933. Describe those?—We have a large grating outside the sluice, with charcoal and shingle and chalk, and the water runs through that, and then through the sluice, and at the end of the sluice it has to go through a wire grating. I can show you some of the wire grating if you wish.

2934. Do you agree with the statement of Mr. Oatley as to the time the spat takes to develop, and as to its floating for five or seven days?—Yes, that is right.

2935. Then that it settles at the bottom and develops very quickly?—Yes.

2936. So that in the course of three months it would be of the size of a shilling and more?—Yes, I have seen that myself.

2937. Are you able to distinguish a French-bred oyster from a native?—Yes, in our own waters.

2938. And the produce of them?—Yes, in our own waters I can.

2939. Up to any age?—Yes, after I have seen them first going off and I have been there all the time, I can pick them out from any other oyster.

2940. Even when they get to be four or five years old you say?—Yes.

2941. Then there you differ from Mr. Oatley, because Mr. Oatley said after two years he could not?—I should think he could on his own ground; in fact, I know he can.

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2942. Then

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Mr. SIDNEY JOHNSON.

[*Continued.*]

Chairman—continued.

2942. Then do you think it would be possible to sell as native oysters, French-bred oysters?—It would be possible to sell them as a native oyster. After they are bred in our waters they would be natives; or rather, they would be half-caste.

Chairman—continued.

2943. What do you sell your half-castes as, French or natives?—We call them second natives; we do not call them first natives.

2944. Is there anything that you wish to add to your evidence?—No.

Thursday, 1st June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Lord George Hamilton.
Mr. Heneage.

Major Jones.
Mr. Kearley.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Renshaw.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. ARTHUR DAVIES BERRINGTON, re-called ; and further Examined.

Chairman.

2945. I THINK you can now rather supplement the evidence you gave three weeks ago on the subject of the enforcement of the law with regard to the capture and sale of immature fish in foreign countries, can you not?—Yes, I have had answers to nearly all my inquiries now. I have already stated that in Denmark and Prussia the existing law is carried out.

2946. Can you tell us how. By what body is it enforced?—I do not know in Germany; but in Denmark it is under the supervision, at any rate, of Captain Drechsel, who is the head of the Fishery Department.

2947. Have they a special police for the purpose?—No, I imagine not. I have no definite information, but the Act is strictly carried out, and persons who infringe it are prosecuted, so I am informed.

2948. But who are the people the Government employ to secure its enforcement, because the question of police is a very difficult one in all these matters of Sea Fisheries?—That I have not inquired into. My only inquiry was directed to the fact whether prosecutions were instituted, and I am told that they are. In France, from the inquiries I have made from French fishermen, I think the law, which is an old one, is very seldom enforced. In Holland it is enforced. My informant stated he had been looking into the matter, and he found that in 1892 no prosecutions had been instituted, but it is evident that there have been a large number of prosecutions in previous years, from my previous inquiries, and I believe an inquiry will be made as to how it was that there were no prosecutions in 1892. I asked my colleague to go over to Ostend to ascertain exactly the state of the case in Belgium. I had had a letter previously, giving the names of 11 persons who had been prosecuted under the regulations up to September 1892; but I was anxious to know whether those prosecutions were specially for the offence of taking undersized fish, and I find that they were. The authorities there say that they had but little trouble; that they instituted those few prosecutions at the com-

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Chairman—continued.

mencement, that they instituted them more as an advertisement than anything else, and that since then they have had no difficulty whatever in carrying out the law with regard to undersized fish.

2949. The fishermen, then, have accepted the law there, have they?—They have accepted it entirely. In fact, it was hinted that they might some day increase the minimum size.

2950. You have heard the evidence that was given on both sides with regard to the oyster fisheries, have you not?—Yes.

2951. Have you yourself formed any opinion as to the merits of the case between the two contending parties?—My opinion is, having had a good deal of experience of the working of close seasons, that a close season is of very little use if you make too many exceptions to it, and that in this case the exception of oysters which have been laid down on English beds must be fatal to the due working of a close season if that exception is to be maintained. My own opinion is that it would be desirable to forbid the sale of all oysters of the European kind. I am not speaking of Portuguese and American oysters at this moment, but certainly for the maintenance of our oyster beds it would be desirable to forbid the sale of any European oysters during the close season.

2952. You would make it universal during the close season with the exception of the American and Portuguese oysters, I understand, would you not?—Yes, I would make it universal.

2953. What do you think would be the effect of abolishing the close season altogether and throwing the sale of all kinds of oysters open throughout the year?—Oyster fisheries now are in a very bad state; they are getting worse every day.

2954. I think I am right in saying the close season was instituted in 1878, am I not?—In 1877 I think it was.

2955. Are you able to say that the institution of that close season during 14 or 15 years has been of any service?—Yes, I think so certainly.

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Mr. BERRINGTON.

{ *Continued.**Chairman—continued.*

It has retarded the destruction of the fisheries, but that certainly is going on at a very great rate, and I am convinced in my own mind that if a close season was abolished altogether the fisheries would suffer very much. It is a great point to be able to secure a certain fall of spat, and I do not attribute the want of spat, as has been done by several witnesses, solely to the climate. The climate probably is on an average very much the same as it was when the spat was productive, but the beds have been very much dredged out; the old oysters have been removed, the oyster shells, and any loose matter to which the oysters could adhere, have been removed, and so the beds have got silted up. And although, as the Committee have been told, the oysters spat every year, the difficulty is that in the most favourable localities for oysters there is nothing for them to adhere to. Therefore although the spat is good enough in itself, it falls upon barren ground.

2956. But still that is a difficulty which it would be very easy for the oyster companies to remedy by putting in material for the spat to adhere to, is it not?—It is very easy in a pond, and that accounts for the evidence which shows you can always breed oysters in a pond because there you keep the spat in for the week or less, during which it floats and then it drops upon the prepared ground. But at Whitstable the oysters spat every year, and the spat comes to nothing at Whitstable, because the tide carries it away down to Herne Bay, which accounts for a certain amount of spat which is annually found at Herne Bay.

2957. Then you do not attribute the superiority which is found in ponds to the mere fact of the water being warmer, do you?—The temperature of course has a great effect, but the main cause why our natural oyster beds have been so depleted, I think, is because the substances to which the spat can attach itself have been removed. We have had great complaints of late with regard to an oyster fishery on the coast of Essex, where the companies, who have several Orders for private fisheries, have no doubt bought from the fishermen the cultch which has been dredged up on this open water, and complaints are made that the open water will soon be as incapable of retaining the spat as other places.

2958. What remedy would you propose for this state of things with regard to oysters?—It is a matter I have given a good deal of attention to for the last two or three years, and I am very anxious to see something done, and I think through the medium of the Sea Fisheries Committees something may be done. I am anxious to see that they should have larger powers of regulation of the public oyster fisheries. I am also anxious to diminish the expense of obtaining Orders conferring rights of several fisheries under the Act of 1868, and to decrease the size of the areas for which those Orders are granted, so that there may be more chance of their being better worked. At present the whole thing has been a failure. The areas granted have been very large; large portions of them have been neglected. When the oysters have been dredged out portions of them have

Chairman—continued.

been left alone and become foul, and there is nothing for the spat to attach itself to. A large number of them have been determined by the Board of Trade, and very few of the remainder are doing well. One or two of them are doing well.

2959. Can you at all sketch out the powers which should be given to the district Fishery Committees and the sort of regulations which you think it would be useful for them to make?—It would require a good deal of consideration to make a complete scheme; but, speaking generally, I take what I mentioned the other day as the most pressing thing, namely, to enable them to make regulations (including mussels with the oysters) as to the sizes at which shellfish may be taken from the beds, as to where those that are undersized should be deposited, as to the removal of cultch, and where any cultch which is fished up should be deposited again. I think with the powers they already possess those powers if judiciously exercised might do a good deal towards improving the public fisheries.

2960. We have heard a good deal about the difference between foreign oysters and British oysters. Do you think there is any great power of distinguishing between one and the other?—At first there is, but then you can distinguish the oysters from different beds in England. I have here, if the Committee care to see them, a few specimens showing the entirely different character of oysters from different estuaries in England. The European oyster is one all through, but takes a different character in France to what he does at Whitstable or Colchester, but at Falmouth the English oyster has very much the character of the French. You can distinguish them, but they are much alike. *That* is a French oyster; *that* is a French oyster relaid in English waters, showing the greater growth which has been made in England. *That* is a Whitstable native, but it has been dead about eight months and has lost the green colour which one invariably sees on the Whitstable oyster. (*The Witness produced specimens.*)

Commander *Bethell.*

2961. Is that a full-sized Whitstable oyster?—Some of them are a little larger, but that is about the average size. *This* is a Colchester native, and that, too, having been the same time out of the water, has lost its darker colour. They distinguish these oysters, not by their shape but by their colour. *This* is a Dutch oyster. The Dutch oyster, I believe, came from the Firth of Forth originally, and the Arcachon oyster came, I believe, from different places in the United Kingdom. *Here* is a Falmouth oyster, taken between Falmouth and Truro. *That* shows the same sort of growth which is shown upon a French oyster deposited in English waters. It is a very rapid growth. *That* addition to the shell is supposed to have been made in about three months. (*The Witness produced further specimens.*)

2962. That oyster is not an oyster which has been moved from somewhere else, is it?—No, it is an English oyster.

Mr. *Buchanan.*

2963. Did you say that the Dutch oysters were

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Mr. BERRINGTON.

[Continued.]

Mr. Buchanan—continued.

were originally Scotch oysters, taken over to Holland and cultivated there?—I understand that they were taken within the century from the Firth of Forth.

2964. And that the Arcachon oysters were originally taken from Great Britain?—Yes; a large number. It was originally stocked from Great Britain. Many years ago, before all the French regulations were made, and before the Government took the question up, the French oyster fisheries were almost valueless. Now they have removed many of their restrictions, because they say they have got as many oysters as they know what to do with.

Chairman.

2965. Can you tell us anything about the close seasons which are in force in foreign countries with regard to oysters?—I have here a list of the close seasons for oysters in Great Britain, in Ireland, and in foreign countries, including America. In Great Britain: deep sea oysters, from the 15th June to 4th August; other descriptions from the 14th May to 4th August. For Ireland generally: 1st May to 1st September. South East Coast, Wicklow Head to Carnsore Point: 30th April to 1st September; Cork Harbour, 1st May to 1st September; Tralee Bay, 10th March to 1st November; River Shannon, 1st May to 1st September; Galway Bay, 1st January to 30th November; Achill Sound and Clew Bay, 1st April to 1st October; Blacksod and Broadhaven Bays, 1st May to 31st August; Sligo, Ballisodare, and Drumcliffe Bays, 30th April to 1st June; Lough Swilly, 1st May to 1st September; Lough Foyle, 1st May to 1st September; Strangford Lough, 1st March to 1st September; Carlingford Lough, 1st May to 31st August; France, 15th June to 1st September (abolished in 1889); Holland, 1st April to 1st October (public beds); Portugal, 1st April to 31st August (natural beds); Sweden, 1st May to 1st September; Canada, 1st June to 15th September; United States: Rhode Island, 15th May to 15th September; Connecticut, 1st May to 30th September; New York, 31st May to 1st September; New Jersey (Bergen, Essex, Middlesex, Salem, Monmouth and Gloucester Counties), 1st May to 1st September; New Jersey (Hudson Union and Cumberland Counties), 1st July to 1st September; New Jersey (Burlington, Atlantic Ocean, and Cape May Counties), 1st May to 1st October; Virginia, 1st April to 15th October for dredging; 1st June to 1st September for tonging; 1st May to 1st September for tonging in Pocomoke Sound. As to these in the United States, the close season applies to natural banks only; private plantations are exempt. Delaware, 1st May to 1st September; Maryland, 24th April to 14th September for dredging; 24th April to 31st August for tonging. It will be seen that the oysters all spat at the same time, as is shown by the times which are fixed for the close season.

2966. But, as a matter of fact, these only apply to public beds, do they not, in almost all cases?—No. In some of the American States they apply to the natural banks only, and private plantations are exempt. That is the case in Rhode Island, Connecticut, New York, New Jersey, and Virginia, but not in Delaware or Maryland.

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Commander Bethell.

2967. I should like to ask you what the distinction is between public beds and private beds?—In England, do you mean?

2968. Yes, I mean in England?—Private beds may be either places where oysters are laid upon land which is the actual property of the person laying them down in private waters, or they may be on areas which have been turned into several fisheries by a Provisional Order, under the Act of 1868. That Act enables the Board of Trade to grant Provisional Orders creating a several right of fishery for oysters or mussels in given places, and forbidding the public to fish there. It is probable that some of the Committees may ask to have that power given to them, but it is one which has been very jealously guarded by Parliament always, because it entirely destroys the right of the public fishermen, and I do not know that it would be wise to make the granting of such Orders for several fisheries too easy.

Mr. Heneage.

2969. The largest of the beds at Cleethorpes are private oyster beds, are they not?—Yes.

2970. And that is what you mean, is it not?—Yes; they are upon private property.

Chairman.

2971. You consider the chief value of your table is to show that the spatting season of oysters both at home and abroad, and of all sorts, is about the same?—Yes.

2972. And you, of course, also lay down, do you not, that the American and Portuguese oysters are a different species altogether?—Yes.

2973. That they are unisexual instead of bisexual?—Yes.

2974. We have heard a good deal of evidence about the advantages of dredging in the way of keeping the beds clean, do you agree with that?—Yes; it has become necessary because the beds are so denuded of the rough surface which they formerly had, and have been silted and mudded up. It is quite necessary that the beds should be cleaned from time to time, otherwise a growth of marine vegetation of some kind comes up, and that harbours the enemies of the oyster.

2975. Do you consider the effect of a close season would be to cause that silting up of the beds?—No; it would not be long enough. There would be no appreciable injury done by refraining from dredging from May to the middle of August.

2976. Is there any other point which you wish to bring before the Committee?—I think not.

Commander Bethell.

2977. Will you kindly tell the Committee what has been the object of making this concession to private individuals, what plea is advanced by them to obtain them?—The cultivation of oysters and the increase of the quantity of oysters for the market.

2978. For what number of years have the concessions been made?—About 60.

2979. Then all the private beds to which that does not refer, are above low water mark, I suppose, except in those parts of the estuaries which may be private property?—No; they would not necessarily be above low-water mark, but they might

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[Continued.]

Commander *Bethell*—continued.

might be in the portions of the estuaries which are private property, where rights—acquired, no doubt, originally from the Crown—have come into private hands. So long as the rights are in the Crown, the fisheries are public, unless an order has been made under the Act of 1868.

2980. But as I understand, the Crown claims all rights below low-water mark, does it not?—Except in certain estuaries.

Mr. *Mallock*.

2981. But between high and low-water mark a private owner could not control an oyster bed, could he?—If he is the owner of the foreshore, I imagine he can do anything which is not injurious to navigation on that foreshore.

2982. Could he prevent fishing when the tide was up?—That is a point of law which I would rather not give an opinion on, but he certainly has certain rights with regard to anything that is done on the soil.

2983. I want to ask you a question about the representatives on the Sea Fisheries Committees; are they generally approved of?—Yes. I think the individuals who have been selected have been very much approved of, and, in fact, they are gentlemen recommended by the persons who take most interest in the fisheries in the locality.

2984. Do you find that the fishermen are satisfied with the way in which they are represented on the Committees?—Yes. I have never heard a complaint, I think.

2985. Then, as to the representatives of the Salmon Conservators, what is the particular object of their being on these committees, and are they not rather numerous in some cases?—Only in the case of Devonshire. Unfortunately there are eight Salmon Boards in Devonshire, and when the Sea Fisheries Regulation Act of 1888 was before Parliament, the Salmon Conservators objected that they already were the power that had the control over the estuaries and the waters in many cases out to the three-mile limit, and they objected to the Bill on that ground. Then it was settled with them that a line should be drawn, and they would give up all claim to interfering with sea fisheries outside that limit; but that, in return for that, they should each have a representation upon the committees. That worked well enough in other districts except Devonshire, because the number of Salmon Boards was few, but in Devonshire every little river has its Salmon Board, and there were eight Boards there, and they each had a member. We met that by increasing the number of fishery members by, I think, four; and, to my knowledge, some at any rate of the Salmon Boards, appointed sea fishermen. The gentleman appointed by the Tamar and Plym Board is a large smack owner in Plymouth.

2986. Then there is not any general objection so far as you know?—I never heard any objection from any other part of the country.

2987. Is there a demand from many parts of the country for the expenses of fishery members to be paid?—Yes, all round.

2988. There is no power of meeting that at present, is there?—There is no power; it would require legislation.

Mr. *Mallock*—continued.

2989. Do you know if, as a matter of fact, the boroughs generally pay their representatives or have the power of paying their representatives?—There are not very many boroughs who send representatives to the committees except in Lancashire. Boroughs generally have a certain amount of private property with which they can do what they like, and in Lancashire I believe that a good many of the boroughs do pay the travelling expenses of their members.

2990. Do you agree with some of the evidence that was given that the soles on the south and west coasts are much better than those on the east and north coast?—To a very small extent. There was some evidence given, I think, that the soles in Devonshire became mature at 11 or 12 inches, whilst in the North Sea they did not become mature until 13 inches, and in Iceland until 15 inches. If the Devon soles become mature only at 11 or 12 inches they correspond with those of the North Sea, because Mr. Holt has been investigating the fisheries there, and he reports that occasionally soles of 10½ inches in length spawn in the North Sea, but that the common size is about 12 inches. He has never found an immature sole above 12 inches in length. As to Iceland, although we were told that soles there did not spawn until they were 15 inches, there are no soles there such as you would compare with the Devon or North Sea soles; they are lemon soles, an entirely different fish.

2991. Has he investigated on the south coast at all?—Mr. Holt has not; but Mr. Calderwood, who was for a time the Director of the Marine Biological Institution at Plymouth, was good enough to give me some information as to what had been made out there, and he inclined to the idea that there was an inch difference in the size of soles at the same age on the south and south-west coasts from those of the North Sea.

2992. If there was a restriction on these small fish, how would you recommend that it should be enforced, by prohibiting the sale of them or what?—I think that is the only way.

2993. Could it not be done by prohibiting the landing?—As I stated before, I think it would be desirable to make some exception as to small quantities in order to prevent ill-judged prosecutions; but I think the landing in large quantities might be prohibited, and also the sale; it is impossible to prohibit the capture.

2994. Do you think less would be caught if the sale was prohibited?—Yes. I think that boats would not go out so much to those fisheries on the eastern side of the North Sea.

2995. But what about other parts of the North Sea?—They would not go anywhere where they knew they would be liable to catch chiefly the small fish.

2996. Could the question be met by prohibiting certain areas?—No. I think you could not enforce it. For instance, supposing by an international arrangement it was prohibited to fish in the grounds adjoining the coasts of Holland and Germany and Denmark; they would not prohibit the fishing within the territorial waters of those countries, so there would be two undefined boundaries to protect. But, I think, something may be done
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Mr. BERRINGTON.

[Continued.]

Mr. Mallock—continued.

in territorial waters by reserving areas, certainly in the case of shell fish.

2997. Do you think that this immature fish is valueless for food?—I think if you fix the standard low enough, say at 8 inches for soles, there is no appreciable value in them.

2998. There would be no great loss of food, you think, if it was fixed at that?—No.

Colonel Cotton-Jodrell.

2999. Arising out of what has been asked you about the salmon fisheries, the Conservators of the Dee have nothing to do with the Lancashire Sea Fisheries Board, have they?—They send a member because their salmon district extends, I think, to New Brighton, or nearly so. I think it extends up to the Mersey for salmon purposes, but the control over sea fishing in the part outside the point of Aire and Hilbre Island has been given to the Lancashire Committee, and so the Dee Board have a member on that committee.

3000. The Lancashire limit stops at present at Helbre Island, does it not?—Yes, that is the limit of the Lancashire Sea Fisheries district. The Conservators' district overlaps that; it goes up towards New Brighton on the one side, and on to the north Welsh coast on the other.

3001. You said just now that you had heard no complaint from the fishermen themselves of the way in which they were represented on the boards; is that the case with respect to the Lancashire district?—We had a representation from the secretary of a fishermen's club at Liverpool complaining that the Mersey fishermen were not sufficiently represented, and a vacancy occurred soon afterwards. We asked them to send names of persons who were willing and able to serve, and they sent us some names. We sent to the first, and he declined.

3002. Were these Mersey men?—Yes. We sent to the second and he declined, and then we found a third who accepted, and he was appointed.

3003. Since then things have been considered more satisfactory, have they, and there have been no further complaints?—We have heard no more complaints.

Commander Bethell.

3004. I wish to ask one or two questions about the coast fisheries. Are you aware that there is a great deal of difficulty between the coast fishermen and the deep sea fishermen along the east coast?—Not so much on the east coast, I should say.

3005. By the coast fishermen I mean those who fish in open boats, hauled up on the coast?—Yes. In Devonshire there have been several complaints of injury done to the smaller class of fishermen by the large trawlers coming in shore.

3006. Have the Board of Trade not had complaints from the longshore fishermen along the Yorkshire coast?—Not to any great extent. I think we have had some from the neighbourhood of the Wash, and the north coast of Norfolk.

3007. As a matter of fact I may say, whether 0.93.

Commander Bethell—continued.

it has come to the knowledge of the Board of Trade or not, that there have been for some years great complaints from the longshore fishermen that the big boats from Grimsby and other places come close to the shore, empty their crab-pots, put down their own crab-pots, and injure very seriously the longshore fishermen, not only by interfering with their fishing but also by damaging their gear?—There is no doubt that that is so, and it must necessarily be so where two classes of fishermen fish upon the same ground.

3008. The question would rather seem to be this: do you think it would be desirable that the District Fisheries Committees should have greater power in respect of regulating the fishing in the territorial waters?—I do not think the committees require any larger powers than they have. I think their powers now are sufficient except with regard to shell fish.

3009. At present the committees would have no power to assign a small portion of the coast to the longshore fishermen to the exclusion of the people who come from a distance, would they?—Yes; they can prohibit the use of any method of fishing.

3010. But they cannot prohibit boats, can they?—They can prohibit the use of the trawl.

3011. In the present case there are two classes of long line fishermen?—There are the longshore fishermen who fish with long lines, and there is the class of fishermen who use half-deck boats, and equally use long lines, and who cross the lines, and are able to work in comparatively rough water when the longshore fishermen cannot get out. Now the Sea Fisheries Committees have no power to interfere with that, have they. They could not make a bye-law that boats above a certain size were not to come within a certain limit, could they?—No.

3012. They could not do that, could they?—No; and I should be very sorry to see the power given to them to do that.

3013. That is to say, you do not think there ought to be any steps taken to protect the long shore fishermen from the very great damage which is caused to their nets and crab-pots by the unfair intrusion of these larger boats, with heavier gear?—Yes; I think that in some cases it is desirable, and I have one case in my mind in which it was considered very desirable that some arrangement should be made to define the boundaries between the trawlers and the crab and lobster fishers, but that can be done under the present law, and has nothing to do, I think, with the size of the boat. It has to do with the method of fishing.

3014. But that is a case of trawling, is it not?—That is a case of trawling.

3015. But I am not speaking of trawling. In the case I am speaking of they cannot trawl because the ground is not suitable, but equal damage is done?—As I understand it, the larger boats come in and are able to keep the sea at the time when the smaller boats cannot go out.

3016. Just so?—The larger boats are manned by public fishermen who, I suppose, have as much right to fish in those waters as the men who fish in the smaller boats, as long as they do not do any wanton damage.

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3017. Wanton

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Commander *Bethell*—continued.

3017. Wanton damage is done, and that of course ought to be stopped by the police if possible; but it is very difficult to do so. The fact, however, does remain that the strangers do cut the lines, empty the crab-pots and things of that sort, and there are no means of stopping them, are there?—That can be stopped under the Act of 1883.

3018. By the police?—By the police, and if the Sea Fisheries Committees instituted fairly efficient police round their districts, they would be able to do that.

3019. To some extent they might, of course, but it would be difficult. I want to ask you another question with regard to the same class of fishermen with reference to the herring fishery. There is a great complaint all along the coast that during the herring season, while these small boats are lying at their nets, the stranger fishermen with these very long lines with buoys attached to them, are in the habit of running their line across the path which is pursued by the herring fisher, and these buoys go clean through the nets and cut them through. Under the existing law, can you tell me whether fishing boats so getting in the way of boats lying at their nets are, under the ordinary rules of the road of the sea, liable to prosecution?—Not under the ordinary rules of the road of the sea, but I think they would be under the Act of 1883. Of course, that is another point of law upon which I should not like to give a decided opinion, but I think I could show in a specific case that a prosecution might be instituted under the Act of 1883.

3020. The Board of Trade, at any rate, you say, have not had any intimations from fishermen along the coast in respect of these large boats which come across the path of the herring-netters, and in respect of the large boats which damage the fishing of the longshore fishermen?—Yes; in the one case to which I refer, where the longshore fishermen complained, they instituted a prosecution, under the Act of 1883, against the persons in the larger boats who had injured them. They obtained a conviction. That was upset on appeal, on the ground that under the Act of 1883, no one but a Sea Fisheries officer could institute the prosecution, and to meet that the Board of Trade introduced a clause into their Bill in 1891, which enabled any member of the public who was aggrieved to prosecute under the provisions of the Sea Fisheries Act.

3021. Do you not think that considering the circumstances of the case, that is to say, the number of longshore fishermen there are along the coast, and the evident disadvantage under which they must be placed with reference to larger boats which come from a distance, it might be fair that the District Fisheries Committees should have power to assign a certain distance from the coast into which larger vessels should not be allowed to come to interfere with the fisheries?—I should not put it upon the size of the vessel but upon the acts that they do.

3022. But if both classes use the same method of fishing then you would have to regulate the length of the line which they used, or something of that sort, would you not, or the number of

Commander *Bethell*—continued.

crab-pots they put down?—I should not recommend making any distinction grounded on the size of the boat.

3023. I agree that it is difficult, but I do not quite see how else anything is to be done for those men who undoubtedly have a serious grievance?—I think their grievance will be met now that these districts are created, because they must have some police, and there is to my mind sufficient power in the Sea Fisheries Acts to obtain a conviction in any clear case of wanton injury.

3024. I think you mentioned in your evidence before that you are aware that crabs are becoming very scarce from the great numbers that are taken, did you not?—I have not said it.

3025. Are you aware that it is stated by the longshore fishermen that crabs, which used to be extremely numerous four or five years ago, and of a decent size, are now becoming so scarce that it is difficult to get an edible crab?—The demand for fish is so great now that I think it is telling upon most of those classes of fish that are, so to speak, stationary.

3026. I suppose I may infer that all round the coasts of England, Wales, and Scotland there are within a few miles, at any rate, these longshore fishermen employed in carrying out their occupations, may I not?—Yes.

Mr. *Buchanan*.

3027. With regard to the Board of Trade returns which you have handed in, as I understand, the quantity and value of fish landed means landed from all vessels, does it not, foreigners as well as British?—Yes, but not imported fish.

3028. But any foreign fishing boat that lands fish on the British coast is included, is it not?—No, that would be included in the imported fish. The fish that are caught by our fishermen, say in the Bay of Biscay, would be counted as English fish.

3029. What I want to know is this. Could not you make these returns more perfect by distinguishing the fish landed by foreigners and the fish landed by British fishermen, and also by distinguishing the quarters in which the fish are caught?—We have that in the statistics. There is a statement, not in detail, of the imports, re-exports, and exports of fish, fresh and cured, from 1886 to 1892, on page 34 of the Board of Trade returns.

3030. That would give to a certain degree the amount of fish caught by the foreigners; with regard to the fishing grounds the object of these returns, I take it, is that we should know from year to year the condition of the British fishing industries and the condition of various fishing grounds. Now you have pointed out to us that a good deal of the fish landed at Plymouth is Bay of Biscay fish, and a good deal of the fish landed at Milford is Irish fish; could not the returns, without any great difficulty, be made to distinguish the class of fish caught at various parts of the sea?—I do not think you can put it in to a return. We have that knowledge from our general knowledge of the proceedings of the boats at the different places, and if we wanted it for

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Mr. Buchanan—continued.

for any particular place we could arrive at a fair estimate of how much might be due to any particular portion of the coast and how much fish came from another, but I do not see that we could get a return of it.

3031. I mean this, to a certain degree your statistics are misleading, for you tell us that the increase in fish on the west coast amounts to about 75 per cent. A very large quantity of that increase is Bay of Biscay fish and Irish fish, and yet it is returned by the Board of Trade as fish caught in English waters, is it not?—It is Irish fish caught in Irish waters, no doubt, but it is caught by English boats and brought into an English port, and that is all we attempt to show. We cannot say where Irish waters outside the territorial limit begin and where English waters end.

3032. Could not the returns be made to show more clearly than they do at present the state of the various fishing grounds from year to year?—I think that might be done by reports of the inspectors but I do not think that you can give the figures in the returns.

3033. As far as I understand from your evidence the ambiguity would increase from year to year as the bigger fishing boats are going further afield, so that you get more and more distant fish landed and returned as English fish, do you not?—I think in the case, say, of Bay of Biscay fish, which are landed at two or three ports, it would be easy for us to estimate the quantity which came from there, and if it was desired to ascertain the same information with regard to any other particular stretch of sea, no doubt we could do it, taking Iceland, for instance.

3034. Do you think it could be done?—Yes; but we could not do it in this return. We could only do it by working up all the information that is to be obtained from the various places where that fish is landed, and making a separate return for a particular purpose.

3035. It would be valuable if it could be done. Then with regard to what you said about undersized fish, am I right in saying that you stated where these regulations are at present in force they are enforced?—Yes, except in France. In France the law is in force, but it is very seldom carried out. As I understand from the fishermen themselves, some of them remember cases in which there have been prosecutions, but others know nothing at all about the existence of such a law.

3036. But in Denmark and in Belgium it is carried out, is it?—In Denmark and in Belgium I believe it is very strictly carried out.

3037. Do you think it could be carried out and enforced in this country?—I think so; certainly.

3038. Would you limit it to flat fish?—Yes.

3039. Would you limit it at all with regard to areas?—No; I think it must be general to be efficacious. You cannot trace the places at which the fish were caught.

3040. How would you enforce it, through the market authorities, or in what way?—Through the Sea Fisheries Committees and the market authorities.

3041. Then you would try to enforce a prohibition

Mr. Buchanan—continued.

both of the landing and selling, would you? The Sea Fisheries Committees would have to look after the landing, and the market authorities the sale, I suppose?—Both. The Sea Fisheries authorities no doubt would be able to take action in cases of sale. Sales would not take place in the markets necessarily. I think the assistance of the market authorities would be very valuable.

3042. Supposing such a provision were enforced, do you think it would have a speedy and any great effect in the improvement of the fisheries?—No. People delude themselves very much with the idea that it is going to restore entirely the fisheries of the North Sea; but I think it would have an effect in retarding their very rapid deterioration.

3043. But you do not think it would be of very great practical benefit in improving the fisheries, or any immediate practical benefit, do you?—I do not think that the effect would be sufficient to improve the fisheries, but I think it would be sufficient to retard the decrease at present.

3044. This Committee has to consider general measures for the preservation and improvement of sea fisheries. Have you any other suggestion to make to us with regard to possible measures for preserving and improving sea fisheries round the coast?—No, I have nothing to suggest, except what I have already mentioned with regard to shell fish.

3045. You have laid before us strong evidence as to the deterioration which is going on with regard to the fisheries all round the coasts?—Yes, and I think it is because the Board of Trade were so convinced that there was that deterioration that the President was anxious to see a Committee appointed to obtain information and to investigate the matter, and the Board of Trade at present are awaiting the report of this Committee.

3046. Have the Board of Trade no evidence to give us with regard to the various other subjects mentioned in the terms of reference to this Committee, except the question of the undersized fish?—We should be very glad to give the Committee any information in our power which they require, but we have no suggestions to make with the exception of those small matters. I do not think there is anything wanted with regard to the coast fisheries beyond what has been already done by recent Acts which are now coming into operation.

3047. Then the Board of Trade has no information to give us, or opinion to give us, with regard to the question of the protection of the areas or what value that would be to the fisheries and to their preservation?—In England, within territorial waters, the Sea Fisheries Committees have powers to protect areas. Of course my evidence is only given as to England and Wales, and no doubt the witnesses from Scotland will be able to speak for themselves. But in England and Wales where this regulation Act applies the Committees have already the power.

3048. There have been suggestions made, have there not, that by international arrangement certain districts outside might be defined and protected?—That might be done, but there is always

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a good deal of difficulty in making International arrangements.

3049. But you told us that those that had been made with regard to the North Sea have been thoroughly well carried out, did you not?—Yes, those are very satisfactory.

3050. Supposing it were thought practicable and likely to lead to good results, is there any reason why, on the face of it, some regulation of that sort should not be made?—No, there was, as I have mentioned, a conference of representatives of the different Powers interested in the North Sea, held two or three years ago at Fishmongers' Hall, and there the whole of the representatives recommended that steps should be taken with regard to undersized fish. They passed a resolution unanimously in July 1890: "That this Conference considers it desirable that an International Conference of European maritime powers should be held with a view of concluding a Convention for the prohibition of the landing and sale of undersized flatfish within their respective jurisdictions." Monsieur Sève spoke for Belgium and Captain Drechsel for Denmark.

3051. As I understand, you have no proposal to lay before the Committee as to protecting extra territorial areas?—No. If the Committee were to recommend that the other Powers should be approached, we should take the matter up.

3052. Are you prepared to say whether it would be desirable or not?—No doubt it would be desirable to obtain uniformity.

3053. In the same way with regard to the prohibition or regulation of certain methods of fishing, do you consider it would be desirable that the law should be further strengthened with regard to the possibility of the regulation or prohibition of trawling and other modes of fishing which are proved to be destructive?—Outside territorial waters.

3054. Yes?—No, I do not think I should interfere with it.

3055. You would not?—No.

3056. Of course, your evidence, like that of other people, has gone to show that with the increase of trawling the destruction of the fishing grounds has increased?—Yes; but the trawl is the best, and, perhaps, almost the only instrument which will catch the fish we want. I should never recommend that fishermen should be obliged to fish with an inefficient instrument when there is a more efficient one.

3057. There are plenty of precedents, are there not, in the law at present for forbidding certain modes of fishing because of their destructive character. If the Committee can prove that these large trawlers are permanently destructive to the fishing grounds on the coast, surely there is a *prima facie* case for dealing with that matter, is there not?—I think that a fact of that kind is better met by restricting all fishing in a given area for a time, if it is to be done, rather than by saying that the instrument used shall not be the best that can be used.

3058. Does not "the best" beg the question; Is not that the ground upon which the Legislature has already given powers to the district committees, which they put in practice, for the pro-

Mr. Buchanan—continued.

hibition of trawling within the territorial limits?—Yes, because in that case the territorial waters generally are more shallow than the waters outside, and the small fish harbour there, and it is desirable to preserve them until they become big enough for food. The small fish shelter themselves in comparatively shallow water, the spawn drifts in towards the coast, and we always find more small fish in shallow water than in deep.

3059. But, surely, as a matter of fact, and as a matter of common knowledge, the prohibition of trawling which has been put into operation along the Scotch coast and along most of the English coast, has been put in operation because of the destructive character of the trawl fishing, has it not?—Speaking for England, I think the reason it has been put in force has been for the protection of the small fish, because the trawl is more destructive to small fish than a drift net would be.

3060. But, if that is good for the territorial waters, surely the same arguments would be good, supposing it is practical to limit the trawl fishing outside the territorial waters?—In a much more limited degree; because, on an average, the territorial waters must, of course, be shallower than the sea.

Commander Bethell.

3061. There would be more small fish, you mean?—Yes.

Mr. Buchanan.

3062. We have had evidence as to this particular ground near the German coast which is shallow, I understand?—Yes.

3063. If it were practicable by International arrangement to prohibit or limit trawling in the North Sea, are you not of opinion that it would very largely tend to the recovery of the fisheries in the North Sea?—Yes, it would be very much the same thing as shutting up the North Sea for a time to allow it to recover.

3064. Because that form of fishing is most destructive and has caused the great decline of fish in the North Sea?—Yes.

3065. With regard to the question which has been referred to about close time, have you anything to say as to that, except what you said with regard to oysters?—No, the fishermen have often spoken to me about a close season for sparlings which has been recommended by a Commission on the Scotch side of the Solway, and I think it would be a good thing for them, as sparlings are getting very scarce now; but I have no particular recommendation to make.

3066. Nor, as to the possibility of establishing close times for the catching of other fish by International agreement or otherwise?—No; I should not be disposed to recommend it, and especially to make a distinction between different kinds of fish that are caught unless they are caught in a special way as sparlings are.

3067. The question with regard to a close time for herrings, I suppose does not come before you; it does not concern the English coast, does it?—Yes, it might, but I should not be prepared to recommend a close time for herrings as far as my information goes at present.

3068. Do

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[Continued.]

Mr. Harry Foster.

3068. Do you make any suggestions or recommendations in reference to any round fish?—No; the point before the Committee with regard to undersized fish is, I think, limited to five kinds of flat fish.

3069. That is not so, is it?—The reference is not limited, but the recommendations which have been made by witnesses have, I think, been hitherto limited to those fish.

3070. I am aware of that; that is why I ask you the question whether you have any suggestions to offer in reference to round fish. We are not limited at all in the scope of our inquiry?—No; I have no suggestion to make.

3071. Either as to close time or as to restrictions in regard to their size?—No.

3072. You mentioned in your evidence the other day that with reference to the question of the Board of Trade returns, about which some comment has been made here, the Board of Trade had to do a very large amount of work on a very limited fund?—Yes; that is so.

3073. They have a fund of 700*l.* only, while they have, I think, nearly 160 collecting stations, have they not?—One hundred and fifty-six, I think, is the correct number.

3074. Was the meaning of that suggestion that the work could not be expected to be efficiently done for that sum?—It cannot be exhaustively done for that sum, or for anything approaching it, because to get a really accurate return we must have a man to give up his whole time to it at most of the stations. That would involve an expense which I do not think the Treasury would sanction.

3075. I do not know whether you have stated in evidence what the system is which the Board of Trade adopt at present, have you?—We get the best person we can find at each port to undertake to collect the statistics. In some cases they are customs officers, or other officers who already have duties under the Board of Trade. In some cases they are private individuals. In the case of Hull, Alderman Toozes, who gave evidence here, and who is an alderman of Hull, and has been mayor of Hull, has undertaken to do the collection for us. 25*l.* a year is allowed in that case. It is a very large collection, done through his clerks, and sometimes we are fortunate enough to find somebody who will do it for us in that way. In other cases we are obliged to go to a lower grade of collector; but, as a rule, I think the statistics are a very fair showing of the fact, and the more I look into them the more satisfactory they seem to turn out.

Major Jones.

3076. Are you of opinion that steam trawlers are more injurious to the fisheries than the sailing trawlers?—They will kill more fish. They will kill infinitely more fish than the sailing trawlers will, and to that extent they may be considered more injurious, but not otherwise.

3077. I am asking the question in a sense apart from the take of marketable fish?—No. I think their action is very much the same, except that they take more fish. They might, of course, work faster and disturb the ground more, but it would not pay them to do it. They

0.93.

Major Jones—continued.

are always at work. They can work when a sailing trawler can not, and so they bring in more fish.

3078. The evidence is conflicting as to the percentage of immature fish thrown overboard which will probably live. Have you any positive information about that?—In my experience in cases where a trawl is down for half-an-hour, or an hour, most of the fish thrown overboard will live; but if the trawl has been down, as it is in the North Sea, for a whole tide, then very few of them will live—hardly any.

3079. Do you think 10 per cent. would live?—I am not able to go into figures. I have never counted them, but it would be a very small proportion.

Mr. Kearley.

3080. We may take it, I suppose, that, as a rule, in steam trawling the trawl is down about six hours, may we not?—Yes. And it would be almost impossible to compel them to make short hauls.

3081. As regards the statistics, I understood you to say just now that you considered them satisfactory under the circumstances?—Yes.

3082. May I ask you for an opinion as to whether it is possible to expect to get statistics of any value with so little money at your disposal, averaging per collecting station less than 5*l.* a year?—We get statistics of a certain value, but we do not get exhaustive statistics, and with the money at our command we cannot get them. It would require a very large sum to enable us to give really accurate statistics; but we make the best showing we can with the money, and I think it is a very fair showing.

3083. Is it, in your opinion, altogether dangerous to adopt the statistics which have been presented here as reliable?—No. On the contrary, I think they are extremely reliable. They were instituted before I had anything to do with them, and when I first examined them I was struck at what appeared to be discrepancies, and I worked them out in many cases, and the more I have looked at them the more astonished I have been to find that we really get a very fair showing of the actual amount of fish taken at the different places. We do not get it accurately altogether, but it makes a very fair average showing.

3084. But have you not during your investigations come across some figures relative to the actual returns and the presumed amount of fish landed which are altogether irreconcilable?—Not altogether irreconcilable, but very startling. There were one or two particular cases in which the matter is being closely looked into. I imagined that I had detected an error; but yesterday I received some returns from the Customs which showed me that the error did not exist at that particular point.

3085. Would that be the port of Plymouth that you are referring to?—Yes. I cannot go into details and figures at this moment, because the matter is still under investigation, but I merely instance that to show how many different points have to be considered before you can say that the two returns cannot both be accurate. I think that whilst our collectors are liable to be

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wrong,

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Mr. BERRINGTON.

[Continued.]

Mr. Kearley—continued.

wrong, the railway returns are not always unimpeachable.

3086. That would not be so, so far as regards railway companies in those cases where they levy toll, would it. In some cases there is a toll, I understand, on the fish?—I have inquired about special places, and I have had corrected returns obtained from the companies on going more carefully into their books. It is quite possible that in some cases only the fish which are carried by fish trains may be returned, and not those trucks of fish which are attached to passenger trains. In some cases I find that there has been a misunderstanding as to the words in which the requisition for the return has been sent to the company as to carriage inland, and what carriage inland meant. It was the expression originally used, and I understand it to mean that it should be a return of all fish carried from the port by railway, but not to be a return of fish which might be sent by steamers belonging to the company. Some of them, however, seem to have made a return based upon the presumed ultimate destination of the fish, and to have omitted certain things. So that the whole thing requires a great deal of looking after to keep it fairly straight.

3087. I presume you are aware that as a matter of fact the Plymouth people repudiate the Board of Trade returns altogether, so far as regards their accuracy, are you not?—Yes.

3088. In the evidence which was given from that port it was stated that the collector there was a retired smack-owner, who casually visited the markets, and made up his returns, not from personal observation, but merely from inquiry, and whatever figures were given to him in a general way, which he adopted. Would that be the method of procedure adopted at these other stations, generally speaking?—No.

3089. You do not think that would be so?—No; I should not like to go into this particular man's case, because, as I say, it is under consideration.

3090. I am not imputing negligence on behalf of the man in any way. I am simply asking your opinion on the evidence offered here by Mr. Little, who is accepted locally as the great authority on everything appertaining to the fishing industry in the West of England?—I am not aware of that.

3091. Are you not aware that he is accepted locally as the great authority?—No.

3092. I believe I am right in so stating, but at any rate, the figures there of the amount of fish landed, and the amount of fish actually sent over the railway, are altogether out of accord, are they not?—Yes.

3093. You have probably read Mr. Little's evidence?—Yes.

3094. Have you any suggestion to make in the direction of the Treasury granting larger funds, so that these figures can be collected in a way that will be of greater service?—I think if the fund was slightly increased it would be of great advantage to us. If absolute accuracy is wanted, then it must be thousands instead of hundreds, but if a fair showing is wanted, an addition of two or three hundreds would be of great service to us.

3095. Still, as we are basing all our suppositions on statistics, do you not think it would be

Mr. Kearley—continued.

well that they should be collected in an efficient manner, because the great bulk of evidence which has been submitted to this Committee, or the recommendations as to the close time, have been based upon statistics, and we have been asked to accept those statistics, and did accept them, as a matter of fact, until other evidence was given tending to impugn them. Therefore my reason in asking you this question is to get your opinion as to whether, considering such being the case, it would not be advisable for a recommendation to be made to the Treasury to grant a sufficient supply of money to ensure these statistics being accurate, and consequently of some value?—The expense of getting absolutely accurate statistics from every port would be enormous; but we could remedy the ordinary difficulties that we have experienced by an increase of the grant by a couple or three hundred pounds. I think that we make a very good showing as it is. It is no child of mine. It was started before my time, and when I first looked at it I looked at it with a good deal of doubt; but the more I have examined it the better pleased I have been with the general result.

3096. Has there ever been any suggestion made for the Government undertaking, in a national way, the breeding of fish as in Canada?—In England, I think those things are generally done by societies or by individuals, and some of them are helped by Government. The Marine Biological Association have a laboratory at Plymouth, and they get a considerable yearly grant from the Treasury for the purpose of investigations, but I should not be disposed to recommend the Government to take up the hatching of sea fish in the same way as has been done in America. I do not believe in its being effectual, except possibly in the case of lobsters, and fish which, when they have once got to the bottom, remain there. In that case, if you can confine their spawn during the time which it floats, and then turn it out at the moment when it is ready to drop to the bottom, no doubt something might be done, in the same way as with oyster spat.

Lord George Hamilton.

3097. You gave some evidence as regards the bye-laws passed by different Fishery Boards, did you not?—Yes, I have handed in an abstract.

3098. I suppose all those bye-laws are within the territorial waters?—Yes.

3099. Are those bye-laws sent to the Board of Trade?—Yes.

3100. In considering those bye-laws do you take into account the means by which they can be enforced?—Yes. The Sea Fisheries Committees have power to appoint fishery officers. They have power to buy steam launches, and in fact in Lancashire they have already bought one.

3101. Would that be an element which you would consider as to how far the regulations could be practically enforced?—Certainly, but many regulations can be enforced from the shore.

3102. Has the Board of Trade ever looked into the general question as to whether it would be advisable to have a sea police force to discharge all over the coast these inshore duties?—

No;

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Mr. BERRINGTON.

[Continued.]

Lord George Hamilton—continued.

No; I think the idea has been to leave it to each Committee to deal with its own case, just as it is left to a borough to maintain its own police.

3103. In your experience, do you think there would be any advantage in trying to establish some general system of police all round the coast?—I do not know how the committees would work with a separate body of police. The police would get rather confused, too, if they had to work one set of bye-laws on one part of the coast and a different set on another. Probably there might be more advantage in having officers who were well acquainted with their own regulations.

3104. I will put this case: Supposing it was determined to stop all trawling within three miles, would it not be advisable and almost necessary to have some general police force acting all round the coast?—I do not think it would, because in many places the coast guard are very thickly stationed along the coast, and they are authorised by the Admiralty to inform the Sea Fisheries Committees of anything which they may see in the ordinary course of their duties. They are not allowed to go out of their way to search for offences, but they report what they see.

3105. They cannot do more than give information, can they?—They cannot do more than give information and evidence, of course.

3106. On this question of trawling, assume that there are a certain number of trawlers which it is supposed at times act illegally, and assume for a minute that the same bye-law is in existence round the coast of England as round the coast of Scotland. Two trawlers act together, and one goes in one direction and the other goes in another direction. It is exceedingly difficult, if the local police are not acting in co-operation, to be able to follow the movements of these two vessels, assuming they wish to trawl within a prohibited area, is it not?—Yes, no doubt that is so, and no doubt if such a bye-law were in existence the trawlers would occasionally transgress it, but they could not do so on a large scale if the Sea Fisheries Committees were reasonably active.

3107. Then at present they have, you think, sufficient force to maintain their bye-laws, have they?—No, I do not think they have, but they are gradually setting it up. They are a new creation, and it is only Lancashire which has yet provided itself with a steamer and a crew and a series of officers.

3108. The gentleman who gave evidence on that point, I think, pointed out that Lancashire was exceptionally rich, did he not?—Yes, and that is an excuse for their having been exceptionally lavish in this case. They have spent a good deal of money which I should be sorry to see all the committees spend.

Lord George Hamilton—continued.

3109. Then the enforcement of local bye-laws, you do not think is outside the means of the ordinary county fishery authorities, do you?—I think not. It is a matter which, of course, I have had to look into. They must spend something, but I do not think the expenditure need be very heavy. I do not say that they are all willing to spend money, but in some places the fishermen inform against one another. Different classes of fishermen are very apt to do that.

Commander Bethell.

3110. A steamer would be rather costly, would it not?—Yes.

Mr. Heneage.

3111. Do you think it would be possible to have any uniformity of bye-laws in a few years throughout the Fishery Boards when they get into working order?—We try to keep them as uniform as possible, and I think, with a little experience, we shall be able to bring them more into shape.

3112. Then there would not be the same difficulty with regard to the police, would there?—No.

3113. Are there any other powers which the Boards have not got now, which you would suggest should be given to them?—No, I think their powers are sufficient, with the exception of some small matters I have mentioned with regard to shellfish.

3114. With regard to the longshore fishermen some questions were asked. Is it not the fact that on the first formation of these Boards they opposed them. Did they not oppose the Lancashire Board in Morecambe Bay, and at Donna Nook?—Yes.

3115. But they afterwards became converted to the necessity of them, did they not?—I think so. In Lancashire, I believe, they, as a rule, were converted.

3116. Did you not go down yourself to Lancashire?—Mr. Swanston went there before the Act was passed, but I have been down. I go all about the coast.

3117. I meant as to this particular point?—Yes, Mr. Swanston went there before the Act was passed. Below Donna Nook the persons who opposed the extension of the district are desirous of joining another district now, I am informed. They say so themselves. That is to the south of Donna Nook.

3118. Their refusal to join the Lindsey district, and wanting to join the Norfolk district, was because they thought Norfolk would make stronger bye-laws against the trawlers, was it not?—It may be so.

Tuesday, 6th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Mr. Furness.
Lord George Hamilton.
Mr. Heneage.

Major Jones.
Mr. Kearley.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

MR. PETER ESSLEMONT, called ; and Examined.

Chairman.

3119. You are Chairman of the Scotch Fishery Board, I believe?—I am.

3120. Both from the fact of your being a native of Aberdeenshire, your municipal connection with that city, and the fact that you represented a large division of Aberdeenshire for a considerable period in this House, have you had special opportunities of making yourself acquainted with fishery matters and the wishes of the people of Scotland thereon?—That is so.

3121. From the statistics furnished to the Fishery Board, I think you are able to give us a fairly complete statistical statement of the recent catches of fish in Scotland?—Yes ; I wish to explain to the Committee here that statistics were originally introduced under the bounty system, and that the statistics up to five years ago were exceedingly incomplete as regards the general white fish question, which is really one of the most important questions now under the consideration of the Committee. But, in order to bring the figures as completely up as possible, I hand in to you, Sir, and shall not read for the sake of saving time, the statistics of cured fish for the last 60 years, giving the figures at periods of five years so as to follow up the more complete table which I shall now hand to the Committee. (*The tables were handed in.*) With these tables in the hands of the members of the Committee, perhaps you will allow me to read an explanatory statement which I think would take much less time. I have referred already to the incomplete table which began with the bounty system in the year 1820. Then the bounty system was abolished in 1829, and I bring the cured fish up to the present period ; but it was only about, as I said, five years ago that the subject of statistics was really taken up seriously, and I should like to say here that I think our statistics are still grievously incomplete, that much more exact information ought to be obtained before we can satisfactorily understand the deep-sea fishing.

3122. That would involve a much larger ex-

Chairman—continued.

penditure of money, I imagine?—It would involve a larger expenditure of money, unless the Committee thought it possible to recommend that fishermen should be required, under penalties, to give in returns of the fish landed, both as regards the kind and the quantity landed and the districts over which they fished.

3123. Have you formed any idea as to that cost?—The cost would be very large if we had to take it outside the co-operation of fishermen, but if we made it obligatory on the fishermen to give exact returns, I should think, by-and-by, with a little difficulty at the outset, we would get them fairly without any very large expenditure to give these returns to the fishery officers when they landed, without very seriously increasing the cost. But I should like to say, if I may be allowed to do so on this point, that I think whatever the cost is (I do not think it would be excessive or serious), I think the information ought undoubtedly to be got.

3124. You could not name a figure, could you?—I should think as regards Scotland, only speaking for Scotland, an additional few hundred pounds would probably attain the object we have in view satisfactorily.

3125. A thousand pounds, say?—Probably ; we have already, through the goodness of the Treasury, got 150*l.* more for this purpose in the present year. All we have at present is 500*l.* for that, and I am satisfied that if 500*l.* more were given it could be very greatly improved. I have already handed in a statement to the Committee showing the quantity and value of sea fish returned as landed in Scotland from 1889 to 1892 inclusive, distinguishing between : first, herrings, sprats, sparling, and mackerel ; second, round fish ; third, flat-fish ; and fourthly, other kinds of fish, namely, fish not classified (such as hake, bream, gurnard, etc.), and between those caught by nets, lines, and beam-trawls ; also showing the number of boats and beam-trawl vessels employed, their value, and the value of the fishing material used and the number of fishermen engaged in the Scottish fisheries

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Mr. ESSLEMONT.

[Continued.]

Chairman—continued.

eries during the years in question, being grouped in the way adopted in the tables submitted (that is to say, the fish landed is grouped in that way). From this statement it will be seen that, of the 5,436,000 cwts. of fish landed during last year, fully $3\frac{1}{2}$ million cwts., or 67 per cent., consisted of herrings, sprats, sparlings, etc.; the proportion contributed by round fish representing 1,491,000 cwts., or 27 per cent., while flat fish came next with 178,000 cwts., or 3 per cent., and the balance of 102,000 cwts., or 2 per cent., was made up of fish not classified. It will also be observed that the largest contribution to the home fish supply of the country was made by the net fishermen, who landed upwards of $3\frac{1}{2}$ million cwts., or 67 per cent.

3126. May I ask you, of that $3\frac{1}{2}$ million cwts., could you tell me how much were herring?—Yes.

Mr. Robert Price.

3127. Herring, sprats, sparling and mackerel are in one lot?—I ought to explain that sprats and mackerel landed are so inconsiderable that you may practically leave them out; it is really herring. Mackerel is not a fishing in Scotland.

Chairman.

3128. But there are the sparling, and may we take it that 60 per cent. would be herrings?—More than 60 per cent. With such large figures as we are dealing with in herring I do not think the others are appreciable.

3129. Then, do you deal with the question of the liners?—The liners provided $1\frac{1}{2}$ millions, or 26 per cent., and 380,000 cwts., or 7 per cent., was placed to the credit of trawlers. I might be allowed to observe to the Committee here, that I think there is an erroneous impression that trawlers land a far larger proportion than they really do, that is to say, it is popularly believed that they land more than the others. That, I think, is occasioned by the fact that in some exceptional ports they do land a considerable quantity, but there are so many places where they land none at all.

Colonel Cotton-Jodrell.

3130. When you say land more, do you mean undersized fish?—No, generally the whole fish. As regards the value of the fish, of the total of 1,595,000*l.* of Scotch landed fish, upwards of three-quarters of a million or 48 per cent. was obtained for those embraced in the first group, namely, herring, sprats, sparling, and mackerel, round fish yielding 659,000*l.*, or 41 per cent.; flat fish contributing 152,000*l.*, or $9\frac{1}{2}$ per cent.; and other kinds of fish 24,000*l.*, or $1\frac{1}{2}$ per cent. Again, viewed from the standpoint of the method of capture, it will be found that net-caught fish yielded upwards of 750,000*l.*, or 48 per cent. of the aggregate value of the fish landed, whilst the fish brought ashore by liners was assessed at 585,000*l.*, or 37 per cent., and trawled fish contributed the remainder, amounting to a quarter of a million sterling, or 15 per cent. Taking a comparative view of the statistics for 0.93.

Colonel Cotton-Jodrell—continued.

the first and last years embraced in the statement, we find that whilst the gross total quantity of the fish landed in 1892 showed a decrease from the return for 1889 of 153,000 cwts. or 3 per cent., the value was increased by 141,000*l.* or 10 per cent., equivalent to a rise of 7*d.* per cwt. Considered from the point of view of the means of capture the decrease in quantity is referable entirely to net-caught and line-caught fish, the falling off in the latter amounting to 222,000 cwts., or 14 per cent., and in the former to 59,000 cwts., or 2 per cent.; there being an excess in the quantity landed by the beam-trawl of 127,000 cwts., or 51 per cent.

3131. I suppose I should be safe in assuming that practically all the Scotch trawling is steam trawling?—Yes, practically. It is just like the sprats and the mackerel, anything else is inconsiderable. Viewed in relation to the classification of the fish, the deficiency is found to be the result of a shortcoming in the quantity of round fish and herrings, &c.: the round fish being responsible for the decline of 121,000 cwts., or 8 per cent. less than the return for 1889, and the herrings, etc., for 59,000 cwts., or 2 per cent.; flat fish and other kinds of fish showing increases of 12,000 cwts. or 7 per cent., and 15,000 cwts., or 17 per cent. respectively. Of the rise in value, the fish landed by nets contributed 42,000*l.*, equivalent to an advance of 6 per cent. on the figures for 1889; those secured by liners, 6,000*l.*, or an increase of 1 per cent., and those captured by the trawl, 92,000*l.*, or an enhanced value of 58 per cent.

3132. Can you account for that very much enhanced value of the trawl-caught fish?—Yes. I think the explanation following will quite account for it. As regards the different kinds of fish grouped in the table, the advance in price was made up in the following proportions. Herrings 42,000*l.*, or 6 per cent. over the value for 1889; round fish, 64,000*l.*, or 11 per cent. in advance; flat fish, 27,000, or an increase of 22 per cent., and other kinds 15,000*l.*, or 47 per cent. A further perusal of the statement will show that while in 1892, as compared with 1889, there was a reduction of 227,000 cwts., or 16 per cent. in the quantity of round fish landed by linesmen, the trawled fish gave an increase of 106,000 cwts., or 68 per cent.; and that while less was given for line-caught round fish by 4,200*l.*, or 1 per cent., there was a rise in value in the trawlers' favour of 68,000*l.*, or 91 per cent. It will also be observed that as regards round fish, while the value per cwt. of the produce of baited hooks showed an increase of only 10*d.* (that is per cwt. on the average), the prices commanded by the hauls of the beam-trawl advanced 1*s.* 3*d.* Turning to flat fish, we find an increase of 2,800 cwts. or 3 per cent., in the quantity landed by liners, and of 8,200*l.*, or 18 per cent. in their value, with an advance of 1*s.* 4*d.* in the price per cwt.

Commander Bethell.

3133. Do you say the flat fish taken by line is in advance?—Yes.

3134. You said an increase of some cwts.?—Yes.

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3135. There

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Mr. ESSLEMONT.

[Continued.]

Commander *Bethell*—continued.

3135. There are figures giving 97,000 cwt. in 1889, and 100,000 in 1892?—You will notice that this statement is relative to the prices obtained by the cwt., and not to the gross money value.

3136. I thought I understood you to say that in flat fish there was an excess taken by the line?—Yes; but this is in the price obtained for them. You will find the figures come out in this way, that in the one case the liners have advanced the price by 1s. 4d. per cwt., and trawl 2s. 5d. is the rise per cwt. One of the outstanding features of the statistics is the great contrast presented in the prices per cwt. obtained for flat fish, the quotations for those landed by the trawl for 1889 and 1892 being 22s. 11d., and 25s. 4d. respectively: while 9s. 5d. and 10s. 9d. respectively were all that the line fish commanded.

Chairman.

3137. I should like to know what reason you would give for that?—The reasons, I think, are given farther on. I will give you the reasons so far as I can account for them. On examining that portion of the statement submitted which deals with the means of capture, it will be seen that of the total capital invested, amounting to over one and a-half millions sterling, 680,000l. or 41 per cent. was represented by net and line fishing boats, 229,000l. or 14 per cent. by beam-trawl vessels, and 744,000l. or 45 per cent. by fishing material. It will also be observed that there were 14,000 fishing boats and 140 beam-trawl vessels, the average value of the former being 49l., and of the latter 1,636l.; and that 46,000 represented the number of net and line fishermen, and 700 those employed on trawlers. Comparing the above figures with those of 1889 (and I think the Chairman will find here the explanation for which he was asking a little while ago), we find a reduction of 700 or 5 per cent. in the number of net and line boats; 37,000l. or 5 per cent. in their value; 1,800 or 4 per cent. in the number of fishermen employed on board them; and 31,000l. or 4 per cent. in the value of fishing material (including that of trawlers); but an increase of 30 or 27 per cent., in the number of beam-trawl vessels; of 118,000l. or 106 per cent. in their value; and of 224 or 47 per cent. in the number of fishermen carried by them. That is to say, in these four years, the beam-trawlers have increased 106 per cent. in value and 47 per cent. in the numbers of men employed; taking it roundly, they have doubled their capturing power in four years. On the other hand, while there was a reduction in the value of the net and line boats employed to the extent of 5 per cent., there was an increase of 4 per cent. in the value of the fish taken by them, but a decrease in the quantity of 5 per cent. Then comes the return of herrings and cod and ling cured. I have referred already to that statement which I handed in first. It is interesting to note the great development of the herring fishery as shown in the quantity cured, the average for the last quinquennial period in

Chairman—continued.

the table exceeding that for the first five years by more than three to one. That is, taking the 60 years ago period and the latter period, it is more than three to one. Now I come to the measures for the preservation and improvement of the sea fisheries in the seas around the British Islands.

Colonel *Cotton-Jodrell*.

3138. Are these suggestions, or what have been already carried out?—They are practically suggestions founded on the facts.

Mr. *Buchanan*.

3139. Are these trawlers which you are speaking of Scotch trawlers?—Yes.

3140. You do not include English trawlers, do you?—No. The Committee should understand that I am dealing exclusively with the Scotch fisheries, and not with English fisheries.

Chairman.

3141. I suppose we may take what you say, may we not, as representing the opinion of your board generally?—I believe so, but I should rather give it as my own opinion.

3142. As your personal opinion as chairman of the board, you mean?—Yes. I am considering the first subject embodied in the remit to the Select Committee, viz.: "The expediency of adopting measures for the preservation and improvement of the sea fisheries in the seas around the British Islands." It is almost impossible to avoid commenting upon three important points, viz.: fishery harbours, means of transit, and telegraphic extension. There is a great lack of harbour accommodation for fishing boats on the Scottish coasts, while the few harbours that exist are sadly deficient in providing the large size of boats now in use with safe entry at all states of the tide, and suitable anchorages, and there can be no question that if suitable harbours were constructed, and defective harbours improved, especially on the east coast, the fisheries would be materially benefited and the public would reap the advantage in being supplied with fish in the best condition and at cheaper rates. The Fishery Board for Scotland have for many years had before them applications of a very urgent and deserving character which they have been unable to entertain from the fact that their available funds are limited to a statutory grant of 3,000l., supplemented at times by a surplus arising on receipts from brand fees. I consider it a matter of the first importance that Parliament should entertain a comprehensive scheme under which the Public Works Loan Board would be empowered to lend to the Fishery Board a sufficient sum to enable the latter at once to deal effectively with this question. Unless this is done, I am satisfied that many populous fishing communities on the east coast, composed of the best class of fishermen, will have to abandon their present calling and homes, and remove elsewhere, a contingency which I think would be very unfortunate, more especially as regards the rising generation, who would,

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Mr. ESSLEMONT.

[Continued.]

Chairman—continued.

would, in all probability, drift away from engaging in this important industry.

3143. May I ask you if you have formed any opinion as to what sum per annum would sufficiently equip the Scotch Fishery Board with power to deal with harbours?—I have been anxious that the sum per annum should be merely held *in retentus* by the Treasury as security for the interest on the money advanced, and that the capital sum should be advanced on the revenues of these harbours; but if the revenues of the harbours fall through, the Treasury would pay from the annual vote to the Fishery Board a sum sufficient to make up the interest on the money. The sum would, of course, depend on the rate of interest charged, but supposing the rate to be $2\frac{1}{2}$ per cent. (with consols, $\frac{1}{2}$ per cent. lower), I should think about 7,000*l.* per annum given in that way would fairly meet the circumstances, or a capital expenditure of probably 300,000*l.*

3144. Then that would be an addition of practically about 2,000*l.* to what you at present spend, would it not?—We are only getting 3,000*l.*

3145. You are only getting 3,000*l.*, but you have other sources; the amount you spend on harbours amounts to something like 5,000*l.* a year now, does it not?—Yes, if the brand fees are profitable.

3146. From all sources?—But I should want this in addition to these contingencies.

3147. You would want 4,000*l.* above your 3,000*l.* then?—Yes, in addition to the contingent windfalls.

3148. As I understand, what you would propose is, that the old Parliamentary grant of 3,000*l.* a year for harbours should be doubled, at any rate?—Should be doubled at least, and that you should allow us on the credit of that annual expenditure, to spend a capital sum to deal effectively with the harbours, because our dribbling away with 3,000*l.* a year is no good.

3149. I quite understand; you ask for 7,000*l.* a year to be allocated to the Scotch Fisheries Board, to be used as securities for loans to be advanced by the Public Loans Commissioners to the Fishery Board to carry out improvements in Scotch harbours?—Yes, in addition to the contingencies.

Mr. Buchanan.

3150. And is one of the objects you have in view in urging that upon the Committee that in that way the Fishery Board might be able to adopt a system for improving the harbours along the coast of Scotland?—Yes, my idea is that, subject, of course, to the sanction of the Treasury or the Government through the Secretary for Scotland, or in whatever way it is to be done, the Fishery Board would put before those interested in harbours in Scotland this capital sum. Localities would come forward with the schemes to receive approval or refusal; and that practically these fishing communities would be told, "This is what you are to get and no more." Then we should be able to go to work, and people would be relieved from that suspense which at present exists, *i.e.* that all the men who are active and industrious fishermen fear

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Mr. Buchanan—continued.

they will be all dead and gone before anything is done for their harbours, and they are just now in doubt as to whether they shall leave their homes, and go elsewhere or not.

Commander Bethell.

3151. And you say, do you not, that that would require 300,000*l.* roughly?—I think that would do a great deal, because I ought to explain that all those communities are to the fullest extent of their ability willing to contribute themselves. We have usually given three-fourths and they have contributed one-fourth, therefore the sum is considerably increased by the localities contributing by their own laudable efforts from a fourth to a third. That makes the money go a good deal further.

3152. I suppose when you speak of the localities you mean especially the mere fishing communities, or does it embrace anything larger?—As regards the obligation?

3153. As regards the money that you get in addition?—It is collected in the vicinity, or very near from the fishermen and their friends abutting on the neighbouring parishes, by holding bazaars, and going round with subscription lists, and sales of work, and so on; they do what they can.

Chairman.

3154. Do you consider that the history of harbour construction under the old Fishery Board, say from 1814 to 1880, is such as to encourage any Government to give further powers to the present board with regard to harbour construction?—Well, I think it is, and it is not; because taking the whole harbour construction of the country, the very finest harbours that we have have been in the main engineering experiments, and followed with very great difficulties and disappointments. The time you refer to was the initial period in building harbours and breakwaters, and constructing great sea works experimentally; but I do not think that mere fishing harbours have been more neglected than have been the great harbours of the country.

3155. But is it not the fact that at this moment, amongst all the harbours for which the Scotch Fishery Board are responsible, there is not a single one at which a full-sized fishing boat could enter at all states of the tide?—Oh, not at all; I have already explained, that most unfortunately the ideas of the Fishery Board and the Government and everyone connected with it have been too limited as to what was necessary for fishing harbours; they made the harbours suitable for the very small craft which have now fallen into disuse, and are practically no good for the fishing, and they now require deepening or extending.

3156. But so far as most of the Fishery Board harbours are concerned, is it not the fact that even these very small craft cannot enter them at low water?—That occurs from another cause, for which I think there is a remedy. There has been no constituted harbour authority; and unfortunately the Fishery Board gave grants upon condition that they were made free harbours. The consequence was that they were left

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with no Board to manage them, properly constituted, and with no revenue to uphold them when they got silted up and required dredging, and that ought to be most carefully guarded. Proper districts should be laid down, and the people should be made to make all their houses and dwellings within that area practically mortgaged in the interests of the harbour before they get the harbour. That is to say, the inhabitants and those who own the lands and houses, should take upon themselves before they got the money the responsibility of upholding the harbours.

3157. But still you would say that any advances of public money, placed at the disposal of the Fishery Board in the future, should be placed at their disposal under totally different conditions, and to be used in a totally different manner to the manner and methods adopted by the old Fishery Board, would you not?—Yes; absolutely changed, otherwise they would be thrown away again.

3158. As a matter of fact you would admit that the grants between 1814 and 1880 were practically thrown away, would you not?—No, they answered a temporary purpose.

Mr. Buchanan.

3159. Your object would be, would it, that the Board should require security for its grants for the future before entering into a system of harbour construction for the coast of Scotland, and that the harbours to be constructed should be placed upon a permanent foundation by an organization of a Board to look after them?—Undoubtedly; and I should go further, and say that I think if the Treasury were to lend, say, 300,000*l.*, the Fishery Board should be required to satisfy the Treasury as to the feasibility and utility of the schemes before this large sum was advanced, otherwise they should have the power of disapproving.

Chairman.

3160. At any rate, so far as the first point that you desire to call our attention to (which is the question of harbours) is concerned, you would ask that a sum of 7,000*l.* a year should be placed at the disposal of the Scotch Fishery Board under certain carefully thought-out conditions?—Yes; and I should almost put it that the carefully thought-out conditions should go before.

Mr. Buchanan.

3161. There is one point I should like to ask about the money. At the present moment, this 3,000*l.* a year that the Fishery Board have, they cannot in any way hypothecate as security for capital expenditure, can they?—No.

3162. Then with regard to the sum available for branding fees, is it not the fact that on two occasions, within the last five years at any rate, there has been no surplus at all?—There have been two occasions during the last five years.

Chairman.

3163. Passing from the question of harbours, will you go to what your views are with regard to the further facilities for the means of transit?—First of all I think the Post Office ought to go a good deal further than it has done in this di-

Chairman—continued.

rection out of the profits of that department. I think the fisheries a matter of such national importance that it will not do at the present stage to put the obligation with regard to telegraphic communication upon these poor communities who will, if they have encouragement, rise to a better state of things, and will, I believe, return to the Post Office any outlay, but at present they are not able to undertake the obligations laid upon them. Then if it is thrown upon the Scotch Fishery Board, they are taking the money from other urgent purposes and giving it to the Post Office, while the Post Office has a very large revenue, and I think a part of their profit might be so used. With regard to the other matter of transit, I think a good deal could be done also by the Post Office, by the connections between the distant Highlands and Islands by quick sailing mail steamers, where there are no possible railways so as to bring the fish to the markets in fresh condition. The Committee ought to know that almost all fish, especially in Scotland, are of greater money value fresh than cured. There is the expense of curing, and there is a lessening of the value following the curing, therefore if they can get to the great centres of the population and sell them fresh, even at a less price than they at present obtain, the fishermen would still have a better price than they could get for them cured.

3164. Then the value of the fish caught in the more remote part of Scotland, particularly in the West Coast and the islands, is very much reduced, is it not?—Yes; I think I have some figures showing that.

3165. Will you give us those figures?—The average price per cwt. for fish landed in 1892 at Leith and Aberdeen, the principal fresh fish centres, was 9*s.* 11*d.* and 7*s.* 9*d.* respectively. That in Shetland, at Loch Broom, comprising the remote creeks, was 4*s.* 1*d.* and 3*s.* 4*d.* respectively. I have to explain here, to modify this to some extent, that the kind of fish is not quite the same in the remote districts, that is to say, they are rather more of prime qualities at the last-named places, but the great bulk of the difference of price is made up in their getting their fish into the market in good condition, and also from the fact that they have heavy carriage to pay before they come within reach of the great markets.

3166. Is it to this reason is partly to be attributed the lower price per cwt. of line-caught flat fish to trawled flat fish?—Largely to this reason, that is to say, the same quality of fish landed there would bring a considerably less price than it would at Leith or Aberdeen, where the means of transit is better, and the markets are near. I should also like to say I think every railway company should have the most rigid obligations laid upon them when they get the monopoly of a railway, to carry perishable articles, particularly fish, with quick trains at moderate rates. In fact, it should be a condition of any Parliamentary grant to a railway that they should do that, particularly in the north of Scotland, where I think it is of very great importance.

3167. Could you at all translate into money figures what the cost of such improved methods

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of transit, and of such telegraphic extension as is required, would be?—I have not gone into the figures because any figures would be founded upon the very limited catches that we have had in these different places, and would be subject to the qualification that the quantity might be very much increased, but I should think, speaking roundly, that it would be a moderate expectation to find that the value of fish in these remote districts would be at least double the present value.

3168. You cannot suggest at what cost that happy result would ensue, can you?—I should say that the cost to the Post Office, a great institution like that, would be inconsiderably felt, and that to railways it would be of no cost whatever. It would simply be as has been the case in the vicinity of London, that the railway companies would get the powers to make the railways on condition of giving these facilities, and I think they would do it if it was a condition in the same way as they have readily given working men's cheap trains and other facilities in populous districts.

3169. Do you find in Scotland any great complaint with regard to the destruction of immature fish?—Yes, there is considerable complaint, and I am bound to say that so far as the operations of man are concerned, I think it is possible that they are exaggerated; but, undoubtedly, if means could be devised of capturing the mature fish and allowing the immature fish to escape, a great purpose would be gained. But I may be allowed to say that we attach probably more importance than we ought to the comparatively small number that are killed immature, and do not attach sufficient importance to the fact that we are not only allowing but encouraging the fishing of mature fish at maturity in the spawning season, which would be putting myriads into the sea with the chance of living; that is to say, we are taking a cod ashore when it is about to spawn its millions of eggs, and we are attaching no great importance to that while we are attaching immense importance to the capture of a very few immature fish by nets and lines.

3170. Then, so far as Scotland is concerned you would rather be against any prohibition of the sale, capture, or landing of immature fish, would you?—I would not be against it except for the reasons which I think will be convincing almost to the Committee. We cannot capture the mature fish without catching these small fish; we have killed them, we have destroyed them for any future usefulness, and if they are of any value to land and sell for food, I think it would be a great pity to prevent that being done, because that would only aggravate the evil. If it were possible to return them to the sea alive, or to in any way preserve them in any large proportions, then I should say that ought to be done, but if we take into account the difficulties of the different spawning seasons and that mature fish are found occasionally in ground where there is immature fish the difficulties increase upon us. Therefore, in place of that I would rather be disposed to say that if there are localities where large quantities of immature fish are swarming, and where the number of mature fish are not so

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very considerable, it would be more effective to keep the fishermen, especially the trawl fishermen, off that ground altogether, than deal with them in detail after they have caught the fish.

3171. Then, you would be in favour of closing certain areas at certain seasons of the year?—Yes; probably the spawning seasons or the important spawning seasons or the seasons taking them both together where the immature fish were swarming.

3172. So far as the protection of spawning fish is concerned, it would be difficult to close areas during the spawning season, would it not? because I take it that it is pretty certain that all our food fish spawn in waters of considerable depth, and not in inshore waters?—Yes; and, therefore, I think the stopping of beam trawling, which is deep-sea fishing, is much more important in those areas than the line fishing, because in regard to catching at the period of spawning, I am inclined to believe that the fish lie very much at the bottom; they do not rise to the bait very much, and that it is the beam trawl that goes down to the bottom to take them in this partially torpid and helpless kind of condition, and that get them in large numbers; therefore, the prohibition of these areas as regards the spawning season would apply more to beam trawling than to line fishing.

3173. Then, would you be prepared to prohibit beam trawling during, say the summer months or spring months of the year?—A comparatively short period would be sufficient; that is to say, you can ascertain what is the principal month, and if they were preserved say during one month in the principal season, that would probably answer all practical purposes; it would make an enormous difference. I do not know whether I ought to state it here, but I have thought that if trawlers were even prohibited like the line fishermen from fishing on Sundays, it would be a considerable relief, because that would give one day, at least, in which there would be a relief and no harassment when spawning might go on. But still, I think that would be comparatively ineffective, and I think as an experiment, at any rate a month might be tried as not putting a greater hardship than is possible upon the industry for that period of the year.

Mr. Mallock.

3174. Are line fishermen prohibited from fishing on Sundays?—They prohibit themselves; they do not fish on Sunday, and as regards herrings it is not lawful to fish on Sunday in territorial waters, that is prohibited by Statute. It has been asked by the fishermen as giving herrings an opportunity of going up the estuaries as in the case of salmon.

Colonel Cotton-Jodrell.

3175. Is that in Scotch waters, or is it in English waters?—I am supposed to know nothing about England, but the herring fishing is not an industry of anything like the importance in England that it is in Scotland.

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3176. Do you think as far as you know there would be any practicability of allowing the escape of immature fish by regulating the size of mesh of the net, whether drift nets or trawls?—During the short period I have been at the board, I have given a great deal of consideration to that, and at first I may say theoretically I thought it was possible, but I find that a great many experiments have been made and they have been all proved practically failures. That is so far as the trawl is concerned. I think something might be done probably with regard to the size of hook, and certainly something can be done as regards herrings as to the size of mesh, but in regards to what is termed the white fishing all sorts of difficulties arise. A large skate gets into the back of the trawl and against that is driven a number of smaller fish, and I believe the number of immature fish killed has not been materially altered by any patent or any invention yet found. It would be most desirable if it could be done, but it seems to be practically impossible.

3177. But with regards to drift-nets the size of mesh has considerably diminished in Scotland of recent years, has it not?—Yes.

3178. And especially since the introduction of cotton instead of hemp in the manufacture of nets?—Yes; and as regards herrings it can be determined by the mesh. The question then arises as to at what size a herring is good marketable food, and there is always a difference of opinion amongst the fishermen as to the sizes, but it is found by experiments that ripe and mature herrings have been found of very small sizes.

3179. Can you give us any information with regard to that present much discussed subject in Scotland, close time for herrings?—Yes; that has been a very keen question, particularly on the west coast recently, and, as you will be aware, we have a statute prohibiting fishing. We have a close time on certain parts of the west coast within the territorial waters, but by an Act of Parliament that is limited to the territorial waters which only extend for the three miles. My opinion is that might be left (if fishery districts were instituted) to the vote of the fishermen in the various districts, and that where two-thirds of the fishermen were agreed as to the benefit of the close time the Fishery Board might have power to pass a bye-law to prohibit the one-third from fishing.

3180. You would introduce a measure of local option for the various fishery districts, would you?—Yes, and leave the question to be discussed among the fishermen themselves, because I think the responsibility should lie upon them.

3181. Do you not think that great inconvenience would arise from want of uniformity between different fishing districts?—I do not think so, because that obtains already. You see, the principal herring fishings are different round the coast; on the west coast and Stornoway, and the east coast, I think they would generally agree among themselves.

3182. Do you think it desirable to regulate these various methods of fishing. Would you give the Fishery Board power to regulate these various methods in excess of the powers they already have. They have considerable powers

Chairman—continued.

now, have they not?—Yes, and I should give them, with the sanction of the Secretary for Scotland, almost unlimited powers to regulate the fishing. As regards the instruments of capture, I think it would be well that they should be registered and known, so that the men could not use destructive instruments. I think also a good deal more could be done by making the skippers of vessels of over 20 tons burthen be registered as capable and responsible men, which would put an end to those constant depredations in infringing the limits and bye-laws which prevail now. They would be able to hold the skippers responsible, and take away their certificates if they transgressed against the methods which are believed to be the proper methods of fishing.

3183. Would you consider it advisable to give the Scotch Fishery Board power to make regulations with regard to the methods of fishing adopted by British fishing vessels fishing from Scotch ports, even outside the territorial waters?—If I am to speak to that point, I think the territorial waters ought to be very largely extended; I think a three-mile margin is far too little to treat the question comprehensively and properly. And it is curious to find that the old Scotch law had the theory that the territorial waters should mean such a distance as a man in ordinary weather would ordinarily see the sea board which would probably be from seven to 10 miles.

Commander Bethell.

3184. That depends very much upon whether he is standing on the cliff or on the shore, does it not?—The coast line would be visible from seven to ten miles on an ordinary day; of course headlands, and marks would be seen at a greater distance. Then when the three-mile limit was adopted, I find that that was supposed to be about as far as a shot would go, and that it was thought that we could not protect ourselves by the artillery, or other means of defence more than three miles. But now, of course, as many members of the Committee know, 10 or 12 miles is the distance of a gun-shot, and I should think it would be most desirable that we should extend the territorial waters to 10 or 12 miles.

3185. Of course that would require an International Convention?—That would require an International Convention, but the International Convention, having once settled that, it would require no further interference. It would become the same stereotyped law as the three-mile limit is. I have got here a map, and shall endeavour to get for the Committee a sufficient number of copies which is rather interesting showing the three-mile limit in the Scotch waters, and also shows points which will probably be the subject of further questions; for instance, with regard to the Murray Firth.

Chairman.

3186. Does that blue mark show all the waters in which, at present, trawling is closed?—Yes, except that I think the others will be improved with regard to the Murray Firth, which this does not show to its fullest extent.

3187. There is a great demand now in the west, particularly off the Argyshire coast, for
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an extension of the powers of the Fishery Board in the matter of prohibiting trawling, is there not?—Yes.

3188. In the neighbourhood of Tiree the fishermen are very anxious, are they not?—Yes.

3189. Do you think their demand is reasonable there?—I am not quite sure which point of their demand is reasonable, but you may take it I think it is reasonable that the powers should exist out to the distance I have named.

3190. Up to the present time have you found much difficulty in enforcing the regulations of the Board?—Yes, and that brings up a point which is very much discussed, and still is unsettled as to who ought to protect. We have a most inadequate and, I should almost say, despicable arrangement at present. We have one old, very inferior steam yacht, which no man can risk his life in, in anything like rough weather, to go out to sea at all. We have another ordinary sailing vessel, respectable enough, I suppose, but we have got now the immensely improved steam-beam trawlers which can run 14 knots an hour some of them. And they simply disregard our sea police, because we cannot cope with them. Constant complaints are coming in, but we have no sufficient means of protection. We get assistance from the Admiralty, and I have nothing but commendation in regard to those commanders who come down with the "Jackal," and other vessels; but I do not think they take very kindly to the work of acting as sea police. I do not think their vessels are suitable; If we give orders from the Fishery Board to some of these vessels, we often get a message in return that the cruiser is ordered into dock at Plymouth or elsewhere for repairs; it is away, and we really have no proper command of these men or of their services. I think, therefore, it ought to be decided, once for all, if the Admiralty is going to define the prescribed territorial waters they ought to take the entire responsibility of it and be responsible if any encroachments are made. I do not think, myself, that that would be likely to prove satisfactory, but still it would be something to know where the responsibility lay. At present, I think, the only method that could be adopted with any degree of probability of success would be to have a properly equipped sea police, because I think it is very much to be regretted that we should make bye-laws, and find that we cannot enforce them. I think a moderate expenditure of probably 10,000*l.* would put us in possession of two smart vessels, one for the west coast, and another for the east coast, which would be entirely under our management and control, and would be much more effective than anything we have.

3191. We heard from the Chairman of the Lancashire Sea Fishery District Committee that the Lancashire District Committee had established a police of their own, and had got boats of their own. Do you think such a system as that would be practicable in Scotland?—Certainly, if we get the money for it.

3192. But the Lancashire people raised it themselves to do it, it is paid by a rate on Lancashire itself?—The difference there is enormous, 0.93.

Chairman—continued.

because Lancashire is the wealthiest county in the kingdom, and I am afraid our highlands and islands where it is most needed would be far too poor to be able to rate themselves for it.

3193. Then am I to take it that your view would be that any maritime police for Scotland would be required to be under the Fishery Board itself, and paid for by a vote by Parliament?—Yes.

3194. You do not think Scotland would be at all willing to pay for its own police?—I do not think Scotland is ever willing to be assessed. Scotland's view is that she pays too much of the Imperial taxation at present for what she gets in return.

Commander Bethell.

3195. As Chairman of the Fishery Board would not you sooner have a vessel near your own waters, which was paid for by you, than have the police duties done by the Admiralty in vessels with which you could not interfere?—Yes, I think there would be great difficulty in getting the commanders under the Admiralty to put themselves under a Board, such as the Fishery Board, therefore I say the only effective means is to give us sufficient money to have our own vessels, and let us have our own police.

3196. Scotland would be able to keep them going easily enough, if they had them, would they not?—We get so much a year in grant, and out of that we would be able to keep them going without any additional assessment, except the cost of the vessels.

Mr. Buchanan.

3197. What is the distribution of the vessels you now have, what amount of the coast is absolutely unprotected?—Well, during the greater part of the season about the half of it.

3198. You have only one vessel on the east coast, and one on the west?—Yes.

3199. And they are tied, are they not?—They are, as I say, very poor vessels. We have only one Admiralty vessel all the year round, the "Jackal."

Chairman.

3200. You have studied the Scotch Sea Fisheries Bill, which is now before the House of Commons, I believe?—Yes.

3201. Have you any criticisms to make on that Bill in which there is a proposal for rating?—Yes, I have not been quite able to understand it, but taking the county and city of Aberdeen as an illustration. I think a 3*d.* rate there would bring in about 18,000*l.* a year, or the interest on about 600,000*l.*, and I cannot see any necessity for anything like that rate.

3202. But is it not the fact that that 3*d.* is merely put on as a maximum without the least idea that that amount will be reached?—It is very difficult to convince ratepayers that there is not the least idea of putting it on.

3203. Would your objection to that proposal in the Bill be removed, if it was reduced to a penny as a maximum?—It would be largely removed, two-thirds of the objection would be taken away, but I think that a very limited rate over the whole of Scotland, if it is not to be an imperial

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Imperial rate, would be the least difficult and the fairest.

3204. But you could not for the purposes of a District Fishery Committee have a general rate over Scotland, you could only make the rate leviable upon particular districts surely?—I do not see at all that it is an untenable theory that it should extend over the whole.

3205. If you divide Scotland into eight different districts you would hardly expect the seven of those districts to agree in, perhaps a somewhat extravagant expenditure by the eighth district, would you?—The extravagance there would probably need to be kept down by some kind of representation, but it is very difficult to see that a great population like Glasgow, which is largely interested in the fishing industry and trade is not benefited by the improvement of the fishing.

3206. Would not you say it was no use to constitute a committee unless you provided that committee with some moderate amount of funds to carry on its work?—Yes.

3207. And the only way, surely, to provide that District Committee with funds is to give it a certain limited rating power on the particular area over which it exercises its influence?—That is so, and I think a rate of a penny would be ample.

Mr. Mallock.

3208. Do you mean you would rate the inland counties as well?—No, it would be an inland part of the same county.

Chairman.

3209. I think you also raise some objection to the proposal to give a lump sum of 20,000*l.* to the Scotch Fishery Board instead of a varying annual one, do you not?—That appears to me like the Treasury wanting to pay us off and make a hard bargain, and if we show that the Scotch fisheries year by year are a most important national industry, I think we are entitled to ask Parliament to consider our requirements year by year in the Votes as they come up.

Lord George Hamilton.

3210. What is the amount that the Scotch Fishery Board get out of the annual Parliamentary Votes?—It varies, and it is complicated by the fact that we get the herring brand fees theoretically. We get the profit, but it is paid back again. The sum proposed in the Bill is 20,000*l.*

3211. But what amount now is annually voted to you out of the Votes?—It is changed year by year, it is not identical in any one year. It was a little over 22,000*l.*, but it is complicated by the fact that that means the fishery brand, part of the profit of which goes back again.

3212. Roughly speaking, what would be the nett amount which you get from the Imperial taxation?—Roughly speaking 20,000*l.*

3213. But then you repay the profits on the branding, do you not?—There would be, roughly speaking, 6,000*l.* to deduct from the sum of 22,000*l.* I have a statement which I can hand in, which will give the variation.

3214. What does that sum go in? What are the outgoings which that sum annually defray?

Lord George Hamilton—continued.

—There is the expense of the fishery officers all round the coast, which is one of the largest items; there is the expense of correspondents; there is the expense and the up-keep of the "Vigilant," and the small steam vessel called the "Garland." There is a small sum, I think it is 100*l.* a year, to the captain of the cruisers, who gets that as a gratuity, and there is the administration of the Fishery Office, with its officials, staff, offices, and so on. The purposes are all detailed in each annual estimate.

3215. Then you have the power, have you not, of making the bye-laws on land and also on sea, but as I understand you have not efficient means for enforcing your bye-laws on the sea?—Yes.

3216. Is there any difficulty in enforcing any restrictions you choose to place upon the sale of the fish on land?—None has been experienced in that way.

3217. Then you are rather in this position, that you have had authority given you to make bye-laws at sea, but you have no executive power to enforce them?—That is so.

3218. Have you looked through the correspondence there was with the Treasury and the Admiralty during the last year or two?—Yes.

3219. I think that ought to be produced if there is no objection on the part of the Treasury. The position which the Scotch Board have taken up is that they are by Statute entrusted with certain duties, they have not sufficient power to enforce them, and they have requested the Admiralty from time to time to put sufficient force at their disposal, is not that so?—Yes. I might explain to the Committee that the duties were simple before the time that the prohibiting of trawling within the three-mile limit was enacted, but now we have territorial waters where trawling is prohibited round Scotland, and while the difficulties of enforcing our laws at sea have been enormously increased we have had no increase made to our forces.

3220. The position of the Admiralty, I think, has hitherto been that they have not the vessels or the men available for the increase of duties which the issue of these bye-laws imposes upon them?—That is so, and I understand the Admiralty have always declined to accept any responsibility as regards the enforcement of our bye-laws in territorial waters.

3221. The system is not satisfactory at present, is it?—It is very unsatisfactory.

3222. I am glad to hear you say that you have no complaint to make of the officers and men entrusted with that duty, but I understood you to say they are constantly removable from that duty, and are sent to other parts of the world?—Yes, they have to attend to the duties which devolve upon them with regard to the service in which they are, and they must regard those duties as higher duties.

3223. There is not that continuity of duty and work which there is with a police which are specially told off for specific work?—Nor may I say so, can the very best commander with the best intentions put his heart into this work which is not the work for which he entered the Service.

3224. Stopping

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[Continued.]

Lord George Hamilton—continued.

3224. Stopping the trawling on the North Sea coast at certain times of year must be a very onerous and unpleasant work?—Yes.

3225. Could not there be a great advantage gained if the men engaged in that work were derived from the locality, and had a personal interest in stopping the trawling?—Yes; I think they should be men with local knowledge, and also men entirely in the service of the board which has passed the bye-laws, and whose sole duty it should be to enforce the laws of the locality, in the same way as a local police is interested in enforcing the laws of its own locality.

3226. Have you any opinion to offer as to the class of vessel which is sent up by the Admiralty?—The kind of vessel is altogether too cumbersome; they cannot readily get into small harbours, and cannot be expeditiously turned about here, there, and everywhere. I should think something of the nature of a torpedo boat, or some other vessel which was quick-sailing and could come down suddenly on the trespassers.

3227. We are talking of rough weather on the north-east coast of Scotland, remember?—I am only speaking about the lightness and quickness of the boat.

3228. Would not really a good sea-going tug be far more efficient, or something built on those lines?—Certainly, undoubtedly; besides there is a disadvantage, and I am afraid I must explain that, with a big ship like the "Jackal." The trespassers who do not wish to be caught have the telegraph at their disposal, and they know where the "Jackal" is coming, where she is going, and where she is, and they get out of the way before the "Jackal" can get there. Altogether, it would be better to have a vessel more like an ordinary well-equipped and quick-sailing trawler, which would be round upon them, not so distinguishable, and find them before they knew what they were about.

3229. In fact you do not want a man-of-war for the enforcement of those bye-laws?—It is like using a hammer to break an eggshell.

3230. Are you satisfied with the penalties that can now be imposed upon the trawlers?—Yes, I think the penalties are fairly high, and I look more in the direction of certifying all the skippers of these vessels, and making them amenable to the law by taking their certificates from them if they transgress it.

3231. But is it not the practice now that if an officer commanding in any one of these cruisers was to detect a trawler in prohibited waters, that they have no power to arrest and tow that vessel in, but they have to wait at the place at which it is domiciled until it turns up, and then take legal proceedings?—That is so. I do not think very great difficulty has occurred in that regard, but I think a little increase in the penalties might be better. They have the power of confiscating the trawl which is down at the time in prescribed waters, and that gives them an additional power.

3232. Have you at all thought what the cost would be of such a service as I suggest, assuming that any increased work put upon the Admiralty must be met by an increased amount in the Naval

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Lord George Hamilton—continued.

Votes; could not you provide ship for ship as cheaply as the Admiralty could?—I think cheaper.

3233. You would not want the elaborate fittings, and you would not want the same complement of men, would you?—The Fishery Board would very much like to have a comfortable vessel, particularly if we were going about in it, and we are rather envious of the Northern Lights getting 50,000*l.* for a ship when we can hardly get for this great industry an ordinary vessel; but I should think, for practical purposes, a matter of 5,000*l.* a vessel would probably be adequate.

3234. That is the cost of maintenance you are talking of, is it not?—No, the cost of the vessel.

Dr. Clark.

3235. Hull and machinery?—Yes.

3236. With triple expansion engines, going 14 knots an hour?—Yes, that is about the price of the best trawlers which are going that speed.

Major Jones.

3237. What tonnage would that boat be?—I could not off-hand say what the tonnage would be.

Lord George Hamilton.

3238. You do not think that either Scotland, as a whole, or the locality, would willingly assent to be assessed for the maintenance of any sea-going fleet, do you?—No, I think we have a good claim on the Imperial Exchequer.

3239. Supposing you have a local option of any kind, does not local option necessitate local police?—It depends upon the arrangements. Counties have, of course, from the Imperial Exchequer very large subsidies, and I do not see why this fishery should be excluded.

3240. But what I meant was the locality. Suppose a locality wish to enforce a certain bye-law for their own benefit, and other localities do not agree, would it not be rather hard that the other localities should have to pay for the cost of enforcing this bye-law which they did not want or did not approve of?—That could not occur as regards the territorial waters; that would only apply to close time.

3241. Supposing you could have some such system as this: the coastguard at the disposal of the Fishery Board for the purpose of reporting and surveying, the Admiralty cruisers still doing the deep-sea-going work outside territorial waters, and two or three vessels inside territorial waters to stop trawling and enforce other bye-laws; you would then be in a very much better position than you are now, would you not?—Yes, that is practically what we want, and we have been trying to get the coastguard to assist us, but the Board of Trade will not allow it.

3242. The Board of Trade or the Admiralty?—Well, whoever has them in charge. Is it the Admiralty or the Board of Trade they are under?

3243. The Admiralty?—The Admiralty then.

3244. Do you remember the particular request that was refused?—Yes; we have had several communications

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[Continued.]

Lord George Hamilton—continued.

communications with regard to the presence of herrings, and with regard to receiving signals and other matters, but they are practically not placed at our disposal, and have been always refused.

3245. Even for the purposes of communication?—For any purposes.

3246. But, assuming the suggestions I made were carried out, would you then be in a position to give effective power to your bye-laws?—Yes; if we had a moderate sum to buy these necessary vessels, and the other advantages that you have named, that is to say, the Admiralty taking the deep-sea duties upon themselves. With the assistance of the coastguard, I think we should be very thoroughly equipped.

3247. You made a suggestion that territorial waters should be extended a considerable distance?—Yes.

3248. That, as you are aware, would have to be by international convention, and would raise a very large number of questions other than those connected with fishing, would it not?—I do not see that the fact of our extending it as regards fishing questions by international agreement, as to which I hope there would be no serious objection elsewhere, would necessarily raise other questions.

3249. It would, as regards penalties, would it not?—I think not, because we should have the power of enforcing the penalties in our own waters with the consent of the other powers.

3250. You gave some very interesting evidence about the system of building harbours; as I understand from your evidence, really there has been no general system of building harbours for fishery purposes out of loans, but it has been really done out of what I may call an annual dole, supplemented by local subscriptions, has it not?—That is so.

3251. And would you wish to put it on a more business-like footing, by which security should be given for money advanced, and that it should be in the form of a loan?—Undoubtedly.

3252. Have you ever thought, if you adopted that system, that the richer the neighbourhood the better would be the security, and might that not result in the well-to-do districts getting very considerable loans and so extending their harbours that they would crush out the smaller and poorer communities all along the coast?—That is what is really going on now. The rich localities have no difficulty in getting harbours now, and they get them, and therefore I propose this 7,000*l.* a year to the Fishery Board for the purpose of helping the weak against the strong; that is to say, no grant would be given to a rich locality which could very well afford by their corporation or their harbour trust to make a harbour themselves.

3253. Then you could also limit the amount, could you not?—Certainly.

3254. The ultimate security you suggested was the annual Vote, was it not?—No; I suggested that each locality, according to its ability, should practically mortgage their houses and land within the area.

3255. And give a local security?—Yes; that is to say, to show their faith in the scheme they

Lord George Hamilton—continued.

would practically mortgage all that they had to this harbour trust in good faith, and they could not do more.

3256. I think you indicated a very serious blot on the present system; that where these smaller harbours have been made there is no means of keeping them in order by dredging, did you not?—No; in fact the Fishery Board made it a condition that it should be a free harbour in giving the grant very often.

3257. How would you get over that difficulty?—I would make an area by a Provisional Order, and define the area of the district by a local sheriff, the Fishery Board or some other competent authority, which may be thought best, and make that part of the scheme.

3258. An annual cost, I assume, of maintenance in many cases would be small?—It would be small, but not quite so small as it would at first appear. There is the silting and so on.

3259. Who would keep the masonry work of the piers in order, the locality or the Fishery Board?—The locality; the locality must take the maintenance and do it out of what revenue they have.

3260. Would you, under the system you propose, make any doles; would you advance any money without security?—Yes, certainly; I should take a limited security, what I thought the locality was able to give.

3261. But you would not make an actual free grant, would you?—No.

3262. As I understand, now the system is practically one of free grant supplemented by what can be raised locally by subscriptions, is it not?—Yes. It might, in some cases, be reduced to the very minimum, by which they would practically pay no interest if they were not able to pay it, but the lowest limit should be a satisfactory scheme whereby the maintenance of the harbour in good condition would be assured.

Mr. Heneage.

3263. All this question about harbours and loans was gone into very fully, was it not, about four or five years ago, in a Select Committee of this House?—I believe so, but I am afraid the recommendations did not go very far.

3264. The real fact was that the Treasury refused to grant loans unless there was substantial security; was not that so?—That is so, and hence this roundabout way of doing a little by doles from other sources.

3265. And what was desired from some localities was, that the money should be more freely given, and at less interest, was it not?—Certainly.

3266. With regard to these cruisers, do you consider that a vessel of about the size and accommodation fitted up for the purpose of one of these steam trawlers would be the best vessel for your use?—Yes. The Committee have to bear in mind that we use these vessels for two purposes. There is the very important purpose of scientific experiments, and they would require to have a fitting and an equipment which would enable these experiments to be carried out.

3267. Are

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[Continued.]

Mr. Heneage—continued.

3267. Are you of opinion that such a vessel could be equipped for your purposes, and without the extra expenditure which is required for the trawler, for the same sum as a trawler is now equipped, namely, 5,000*l.*?—Probably 500*l.* more would be all that is necessary.

3268. You said something just now in reply to a question about the necessity of certificates for skippers, did you not?—Yes.

3269. Is it not the fact that in the Act of 1883, which was afterwards supplemented by the Act of 1887, those interested in the Scotch fisheries refused to allow Scotland to be included in the Act?—That is quite possible.

3270. I will put it in another way. Was not Scotland included in the Sea Fisheries Act of 1883, and had we not to take Scotland out in order to carry the Bill?—I am not aware; I was not in Parliament in 1883, and my attention has not been called to it.

Dr. Clark.

3271. Were there any steam trawlers in Scotland in 1883?—Very few. But the necessity has arisen from the largely increased size of vessels.

Mr. Heneage.

3272. Then do you believe now, if it was proposed to extend the Acts of 1883 and 1887 to Scotland, there would not be the same objection in that country?—I have not seen the Act of 1887, but I should say not.

Colonel Cotton-Jodrell.

3273. You told us that there was a considerable disparity in the prices obtained at Aberdeen and Edinburgh compared with those obtained on the west coast, did you not?—On the north-west coast.

3274. You quoted the figures 9*s.* 11*d.* and 7*s.* 9*d.* for the former places, and 4*s.* 1*d.* and 3*s.* 4*d.* for the north-west coast, did you not?—Yes.

3275. Then you told us that that partly explained the difference that you pointed out to us as occurring in these statistics between the line and the trawl prices?—Yes.

3276. Do you mean that all the trawling goes on off the east coast and very little on the north-west coast?—That is so. Wherever they trawl the speed of the vessels enables them to land at these places. To give an illustration of the advantage in that way to the trawler, I noticed that the other day a cargo came into Aberdeen which was unsuitable for the Aberdeen market, not good enough, it was supposed, and they went to Grimsby and netted 200*l.* at Grimsby, because they could go there very rapidly, and were independent of transit.

3277. Was that an Aberdeen boat?—I think so.

3278. You said, in answer to a question just now, that a very short time ago there were no steam trawlers in Scotland, did you not?—That is so.

3279. I do not think I caught it, but did you 0.93.

Colonel Cotton-Jodrell—continued.

give us the numbers of steam trawlers there are now?—Yes; it is in the table I have put in.

3280. You have only given the steam trawlers, have you?—Both.

3281. Are not there sailing as well as steam trawlers?—There are some in the Clyde, but they are not worth speaking of, and also in the Solway.

Mr. Renshaw.

3282. I understand there are about 20 small trawlers at Millport on the Clyde?—Yes.

3283. They are very small, I know, but are they not included in this number?—They are included in the number of trawling vessels.

3284. Because 15 or 20 is a considerable number, is it not?—They are included, to the best of my knowledge.

Colonel Cotton-Jodrell.

3285. I see by the figures that 5,929 is the tonnage of steam trawl vessels, and that the total trawlers, including sailing vessels and boats, is 6,484 tons, so that only gives about 1,550 tons for vessels other than steam trawlers?—Yes.

3286. When you come to the portion of your evidence about the suggestions you wanted to make, you mentioned, I think, three points: harbour accommodation, further facilities of transit, and telegraphic communication?—Yes; that was merely introductory to other suggestions. I said, I think, that it was impossible to leave these out in considering the further suggestions, but I am far from saying that it is limited to that.

3287. Do you mean by telegraphic communication, communication along the coast, or for signalling purposes, or telegraphic communication by the Post Office?—For all business purposes wherever there is a harbour where fish is landed.

3288. Have you got any system of signals by which the fishermen can be signalled to out at sea from the shore?—We have been trying to introduce it, and we have been asking the Admiralty to assist us in that, but we are unable to get their approval, and we are thinking just now whether we can adopt it with our own vessels, poor as they are, so that we can communicate with the "Garland" or "Vigilant," or other vessel out at sea, if there was a shoal of herrings, so as to send useful information on shore and have it distributed by telegram.

Commander Bethell.

3289. I want to ask a question or two about harbours. I have often heard people talking about constructing harbours, and that it was very easily done, but I should like to ask you what you mean by a harbour for these fishing purposes?—I mean sufficiently sheltered for the number of boats fishing from that particular locality.

3290. That is just the point. Do you mean a shelter in which boats can be kept whilst they are there, or do you want something into which boats can run in bad weather, because the two things

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[Continued.]

Commander *Bethell*—continued.

things are vastly different?—In my purview I have nothing to do with the harbours of refuge. It is a practical working harbour where the boats can work out and in with at least six feet of water at low tide, and be sheltered, and save the enormous disadvantage to these people, who have no alternative but to get their wives and families out to drag the boats upon the beach and tie them there until they go out to sea again.

3291. Then you are talking of harbours for open boats, are you, and not for big boats, boats that can be hauled on the shore?—I am talking of a harbour sufficient to accommodate the larger boats which they are now practically unable to haul upon the beach. I am only speaking of that as showing the primitive way in which they must act with the small boats.

3292. Then when you are talking of these harbours you are not talking of a harbour to which these fishing boats can run, if they are forced to run by stress of weather; you do not expect them to be able to get in?—No; I expect it to be a harbour into which they may go in and out every day for the purposes of their vocation.

3293. You do not expect a harbour to be so constructed into which they could run in a gale of wind?—They could; it would depend on the amount of water; but in ordinary circumstances they could go in and out when they were fishing.

3294. That makes an enormous difference in everything connected with the cost of a harbour, does it not, and people confuse the two things?—Yes, that is so. We have never considered them harbours of refuge for fishing boats; they are all practical harbours. There is a bay on the coast of Banffshire, which at a cost of 20,000*l.* is supposed to be able to make a refuge harbour.

3295. As a matter of fact, what do these boats do when they get caught in a gale of wind?—They do the best they can.

3296. They cannot run for the shore, I suppose?—In some cases they can, and in some they cannot.

3297. Are you badly off for harbours along the east coast of Scotland?—Very badly off.

3298. Along the west coast you have plenty, I suppose?—There is not the same amount of fishing there, and there is, I think, more natural means of protection there.

3299. There are ample natural means there, are there not?—No, not ample.

3300. I want to ask you another question about piers, about which I find here a great deal of fuss made. Are these rather expensive piers which they seem to construct in Ireland, and for anything I know, in Scotland, essential; I see sums of something like 400*l.* and 500*l.* given for the construction of a pier for landing fish; I think that practical people know perfectly well that fish can be landed upon structures which are perfectly sound, and of much more simple construction?—The harbours I am thinking of as being of great necessity in Scotland are harbours of from 5,000*l.* to 50,000*l.* construction.

3301. With piers?—Yes.

3302. Would you go to a lot of expense for

Commander *Bethell*—continued.

putting up piers for the purpose of landing fish?—No.

3303. It is done, I notice, largely in Ireland?—The construction of piers for the landing of fish will depend upon the facilities wanted by the trade very much.

3304. But public money is spent in them, is it not?—Not with us to any extent; it may have been so in Ireland.

3305. As a matter of fact, in your opinion, are piers, as a rule, an essential for the purpose of landing fish?—Where there is nothing else, of course it is a great help to the people.

3306. But when it is a question of public money it is a question of whether they are essential, is it not?—They are rather temporary to put public money into, no doubt; but they are essential to those who have nothing else.

Mr. *Buchanan*.

3307. With regard to what Commander *Bethell* has been asking you, your object in what you propose by harbours is that the Fishery Board may be able to supply the defects under which the small fishing communities, particularly on the east coast of Scotland, now labour, is it not?—Yes. I draw a distinction between the east coast and the west coast only for one reason. I think the necessity on the west coast is equally great, but Government has been a little more liberal in giving grants there.

3308. There was an Act passed during the last two years especially with this object, I think?—Yes.

3309. And the necessity has very much increased of later years because of the development of the increase in the size of the boats and the development of the industry?—Yes; within the last ten years there has been a revolution in all fishing appliances.

3310. And as regards the places for the larger boats to run to, are there harbours of considerable size for these big boats where they can run, like "Fraserburgh" and "Peterhead"?—Yes.

3311. As I understand, what you would do would be to mark out a district, and that all the land in that district should be conferred upon the new Harbour Commissioners?—It would be part of the harbour property.

3312. Then all the feu duties which would be paid for the houses on it would be part of the revenues for the Harbour Commissioners?—Yes; the present landed proprietor would get a fair quit rent for his land, and after that all the revenues of the harbour would go to the Harbour Trust. At present harbours are constructed upon pieces of private property, and the great good is to the landlord, who feus his land at a much enhanced price, and takes practically the revenue of the harbour.

3313. But you would give the local landlord a fair quit rent for his land, would you?—Certainly; he should get a fair value for his ground as it is at the present time, but he should not get the prospective value which is going to be given to his ground by spending public money on it.

3314. That

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[Continued.]

Mr. Buchanan—continued.

3314. That would be the security for the money advanced in the construction of the harbour, would it not?—Yes; and for the payment of interest and the upkeep.

3315. Then, the further advantage of your scheme of harbour construction would be, if you had a security for the primary receipt of such a sum as you have suggested, that the Fishery Board would have the power, and would have the advantage in embarking upon a scheme of harbour construction?—Yes.

3316. So there would not be the waste of money that has undoubtedly taken place in the past, would there?—The slipshod manner of dealing in the past without any system would be avoided, I hope.

3317. With regard to what you said about the prohibition of trawling within certain areas for a period as much as a month, do you mean prohibition outside the territorial limit?—Certainly, certain banks or districts of the sea.

3318. Would it be necessary to have an international agreement for that purpose?—Yes, I should think it would.

3319. Which would you rather advocate before the Committee, endeavouring to get an international agreement for that purpose, or endeavouring to get an international agreement for the extension of the territorial limit?—Both. First, the extension of the territorial limit, and next, the power to protect certain waters if the fishing was, in the opinion of this International Convention, of a destructive character. But I think this Convention is one that would require very close and careful consideration, because it might be possible that the British interests might dominate, and we might not be willing to put ourselves in the position of having one vote on an international question of this kind. I think it is not without difficulties; but it would be more advisable to have an area outside the limits to which, by general agreement, the consent of all the Governments interested would be obtained.

3320. Of course, we have had precedent for international agreement with regard to the North Sea already, have we not?—Yes; I think it could be much more easily fixed with regard to the extension of the limit than the outside.

3321. Have not the trawlers been coming more into the northern waters in the North Sea than the southern waters?—Undoubtedly, the general popular theory is that off the English coast they have exhausted their waters, and they have come down to take what used to be more the Scotch waters, and are working them.

3322. There is a considerable increase in regard to these trawlers in both in return, and men who previously fished in the southern waters, is there not?—That is so; but there is a large increase in the numbers fishing out of such ports as Aberdeen, for instance. I do not know that I brought it out in the figures, but while they have increased the vessels, and the material for capture, over 100 per cent., they are only getting 50 per cent. more fish; by that it would appear that if they go on extending they will not

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Mr. Buchanan—continued.

increase in proportion, and therefore trawling would be much less profitable, necessarily.

3323. Do you attribute that to the destructive nature of their method of fishing?—I attribute it to the fact that the larger species can be over-fished.

3324. With regard to the sea police, do you consider that in the future a couple of vessels under the control of the Fishery Board would meet your wants?—I think it would, except probably during the herring fishing season, when they could get a little outside assistance.

3325. That is to say, of course, if any work had to be done outside the territorial limits, you would expect that to be done by the Admiralty, would you not?—Certainly, if international.

3326. Then you would rather have these vessels and the sea police under the control of the Fishery Board, and not of the district committees, supposing they were established?—The committees would not do, except in indicating to the central board their requirements being represented there. I do not think vessels would be at all confined to the services of one district.

3327. That has been suggested to you, has it not?—Yes; but that would be much too expensive, and is unnecessary.

3328. With regard to all questions of limitations of mesh, and so on, would you be prepared to advocate that the Fishery Board should have general power with regard to all limitations of the engines of fishing?—Yes; that is to say, the engines of capture or the articles used should be registered, and should be known; and if it was proved that they were destructive means of capture, there should be power to stop their use, or to modify it.

3329. There is one further question about the Sea Fisheries Bill; in view of all these various proposals for extending the functions of the Fishery Boards, and in view of the fact of the growth of the industry, would you be opposed to a permanent and fixed limitation of the grant to the Fishery Board?—Yes. One of the chief features of the Bill is dealing with the most important question of mussels and bait, and that is one of the new duties which long ago ought to have devolved upon the Board, because the destruction of the bait and mussels has been enormous from the want of regulations and the want of power to regulate, and a good deal of the money wanted under the new Bill would be for the purchase and permanent cultivation of these mussel beds. That is a question I have not spoken to, but I think it is a most important question as regards Scotland and the increase of the fish supply.

3330. And with all these various new duties coming upon the Board, it certainly would be a retrograde proposal to fix permanently the sum to be given them in future, would it not?—I do not think it would be at all fair to do that. I should think it would be better to say not less than 20,000*l.*, and then we would get more if we could make out a case for it.

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3331. Have

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Mr. ESSLEMONT.

[Continued.]

Mr. Mallock.

3331. Have there been no grants from Imperial resources for harbours in Scotland at all?—There has been for half a century 3,000*l.* a year.

3332. Have not there been grants for harbours that have been of great use to the fishermen?—Direct grants from the Treasury, yes. In the Highlands there has been a good many, and a few elsewhere.

3333. But you do not consider those as grants for fishery harbours, do you?—Yes.

3334. Besides the 3,000*l.*?—Yes; but we have nothing to do with that. That has been given direct to the Highlands and Islands under special Act of Parliament.

3335. Do you know at all how much has been given?—I have not the figures, but that information could be obtained. I think it amounted, in some single years, to as much as 30,000*l.*

3336. Do you know that no such grants have ever been given in England for anything of that sort?—I do not know as a matter of fact, but I should think that very possible.

3337. With regard to the telegraphs, the Post Office will extend the telegraphs on a sufficient guarantee given, will they not?—Yes.

3338. But it is difficult, I suppose, to get the guarantee?—Yes, it cannot be got in many cases; consequently the telegraph system is not in use.

Mr. Kearley.

3339. I think I understood you to say, did you not, that the evil effects of catching immature fish are exaggerated?—The capture by man, I think, is probably exaggerated, and I think the capture by predatory fish and birds is relatively enormously more, and I also said that I thought the destruction of them of a certain size was not, in my view, of so great importance as the preservation of the eggs for propagation.

3340. Of course that naturally leads up to the suggestion of a close season?—Yes, under certain conditions.

3341. Is it not the fact that different fish spawn in different months of the year?—Yes, that is a fact, and one of the difficulties that have to be dealt with.

3342. Extending, I believe, from January right away up to August?—Yes; I think one may leave entirely out of account herrings. They defy all means of destruction and capture, and seem to propagate in such myriads that we hardly diminish them appreciably.

3343. They are migratory fish, are they not?—Yes; but I am speaking more of the prime fish, particularly the flat fish and the cod and haddock, and with regard to these I think probably a middle month in the spring might be a great means of preservation, although I quite admit that it would not cover all the spawning seasons. Still, I think a month of relief would give an enormous amount of increased seed. I should also like to suggest that when a trawler takes mature cod with the spawn dropping from

Mr. Kearley—continued.

it a system might be adopted of killing the fish, and bleeding it, and putting the milt and roe together overboard, and I am told (it will probably be spoken to by Professor McIntosh and other scientific witnesses) that is a practical scheme for largely preserving the eggs.

3344. That would be practically on the lines they breed fish in America, would it not?—Yes; but it would be a less expensive way by merely making an arrangement at certain periods of the year to make it obligatory on those who caught them to return the milt and roe in a mixed condition to the sea at once. It would not be without difficulties, but still, if it was done on board even a limited number of trawlers, considering the myriads produced, we would probably arrive at figures which would tell. Look at the enormous number of fish in that condition that come in by liners as well as trawlers.

3345. Assuming it to be possible to have a close season for a month, as you suggest, do you agree that it is possible to have one particular month that would be common to all fish, notwithstanding the fact that the spawning season is different?—No; I take it the protection of the month would have to be located, and that month would occur in certain waters where it would be most advantageous at one period, and probably the period in another locality would be different. So far as that could be done it would be of immense benefit, because there is really a practical question of how far the fishermen could afford to be suspended from working in any given locality. Therefore I suggest a limited period as giving the maximum of benefit with the minimum of hardship.

3346. And varying according to the character of the fishing in the particular waters?—Yes, and the country and so on.

3347. As regards the protection afforded by the cruisers, you say that it is altogether ineffective at the present moment, do you?—Well, probably that is putting it a little too strong, but it is very inadequate and deficient, and therefore, I think, I ought to tell the Committee that the experiments that we have made in certain of the closed waters have been, to a considerable extent, vitiated, because we have not had the certainty that the waters were protected so that we could take our statistics with that accuracy which I think is essential to a question of this kind.

3348. Have you found that the bye-laws passed have been practically inoperative from the same cause?—Occasionally they have been inoperative, and the line fishermen have said in some cases that they have been almost entirely inoperative. But I think I ought to put the qualification that there is a tendency by those who suffer from it to put it as strong as they can, but certainly I am not wrong in saying that the transgressions have been so frequent as to practically make statistics for certain areas useless. I ought to explain, I think, that with regard to the extension of territorial waters, that it would be as easy, and easier, to protect 12 or 14 miles than it is to protect a little ribbon of three miles.

3349. At

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Continued.

Mr. Kearley—continued.

3349. At present, mostly these cruisers are engaged outside in the deep waters, are they not?—They are not engaged at all. There is only one.

3350. It is chiefly in Plymouth Harbour, is it not?—It goes occasionally there. We get a little assistance in the great herring season from other cruisers.

3351. You have a cruiser on the east and on the west coast, have you not?—No; only on the east coast; the one on the west coast is our own sailing ship, the "Vigilant."

3352. You suggested it would be an improvement, possibly, if you could have a local maritime police, did you not?—No; I did not suggest that except locally to Scotland. If I was understood to suggest that there should be a police given to a particular locality or town that was a mistake.

3353. I was using the word "local" in the sense of having application to Scotland, separate and apart from the police, as we may term it, afforded by the Admiralty?—Yes; because we have the exceptional condition of things that we have a Fishery Board in Scotland administering, and they should be located under them.

3354. Would you prefer to have locally equipped boats more of the trawler type than the services of Her Majesty's ships as at present?—Yes; boats belonging to the Fishery Board, but in that sense belonging to the Government; and men and boats under their control, and at their service.

3355. Do I understand you wish those boats to be the property of the Government, or the property of the Fishery Board?—Well, everything that belongs to the Fishery Board belongs to the Government.

3356. And it would be advantageous, probably, to have these boats manned by men with local knowledge, would it not?—Undoubtedly, where we could; and, further, both commander and men would be, under the Board's control, subject to dismissal; but if it is a commander of a Government cruiser, or a gunboat, it would be unreasonable to expect that he would be, in the same way, amenable to the orders of such a body as the Fishery Board.

3357. You made a reference to the coastguard being unavailable at present to assist in protecting the fishery interests within territorial waters, did you not?—Yes.

3358. In what respect would you find their assistance valuable?—I should get as many Scotch interests to combine together as possible. For instance, if the coastguard see a vessel working within prescribed waters, they are excellent men, have good glasses, capital witnesses, they would take the bearings of that vessel, the number, telegraph to the nearest authority, and would detect and prevent these depredations. That is one illustration of many I could give you in which I think they might be very useful. We are apt, for instance, in the heat of the moment with regard to line and beam trawling, to have among the men a little bias and feeling; but these men would be outside and disinterested witnesses, and when the cases came to be tried, would give very evenly-balanced and very excellent evidence.

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Mr. Kearley—continued.

3359. At the present time the coastguard would take no notice of anything of the kind, would they?—No, it is not their business.

Mr. Robert Price.

3360. You drew attention to the fact that whereas the total fish taken by trawling had increased only about 50 per cent., the catching power had increased 100 per cent., did you not?—Yes.

3361. It is quite true, is it not, that the value of the trawling vessels has increased 100 per cent., but the number has only increased 30 per cent.?—That is so.

3362. I suppose the recent vessels are much larger?—They are always improving them.

3363. Increasing the size of the beam, you mean?—And the quality of the ship altogether, they are improving.

3364. Do you think it is accurate to say the catching power has increased cent. per cent.?—Undoubtedly. Of course the honourable Member knows I am speaking purely of Scotland.

3365. Yes, I know that. You talk about a close season, but you also talked about advocating closing certain areas, did you not?—The month would only apply to certain areas.

3366. Certain districts, practically, I suppose?—Yes; it might apply, for instance, to a great breeding bank, such as the Smith's bank.

3367. Then you have special information as regards the areas where the fish specially spawn?—Yes, and where the trawlers find them spawning.

3368. In fact, the spawning fish are taken within certain well-known areas; is that so?—As regards the larger kind of fish, yes.

3369. As regards flat fish, is it so?—Yes.

3370. That is known, is it?—Yes, to some extent. That could be more accurately spoken to by Professor McIntosh, who will follow me.

3371. You referred to the advisability of local option, that is to say, taking a poll amongst the fishermen?—That applies much more to the important question which has been agitating Scotland with regard to herring fishing. That is the big question with us, a close time for the herring fishing, and the local option would apply to that more. I hand in a statement which may interest the Committee, if I may be allowed, showing the diversity of opinion with regard to the close time for herrings, giving the opinion of different districts, which was obtained for the Fishery Board. I think that might illustrate the difficulties of a central board laying down a close time, because of the diversity of opinions in different districts. I would, therefore, with regard to herring fishing, let them fight it out and come to a general agreement; then I would help them, but not until then.

3372. And the constituency from whom you would take the vote would be the fishermen and the owners of the smacks, I suppose?—Practically the whole interest of the district. It would require to be a considerable area, probably

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Mr. Robert Price—continued.

the west coast, the east coast, and part of the north-east coast, and so on. (*The statement was handed in.*)

Mr. Heneage.

3373. Supposing a five-mile or a ten-mile limit was asked by Great Britain for the area of territorial waters, would not in all probability the same limit be asked by Germany and France for their waters?—Certainly.

3374. Would not that create immense complication?—I do not think so, not for fishery purposes.

3375. Not in the North Sea?—No; I should think it would simplify matters.

3376. Are you aware that there has been a great deal of friction as it is between Germany and England in regard to the use Germany has made of procedure under her law in territorial waters?—No; I am not aware of any special friction. My assumption is that if there was a general agreement, and I hope and believe there would be a general agreement, that a more extended limit would meet the modern circumstances better than the three-mile limit. This I quite admit, and see at once that it must be conceded all round.

Mr. Renshaw.

3377. Having regard to the statistics which you placed before us, will you follow me for a minute in reference to the value of the round fish caught; the quantity is stated at 1,229,000 cwt., the average value being 8s. in 1892, whilst the average value of round fish caught by the trawl has been 10s. 11d., that is to say, approximately, a difference of 3s. a cwt.?—Yes.

3378. That represents a total difference of about 184,000*l.* on the value of the catch of round fish by line; are we to understand that that is almost entirely in consequence of bad access to good markets?—Yes, entirely. All parties prefer, if they get it in good condition, a line-caught fish to a trawl fish, and therefore it is not to be attributed to the means of capture. The means of capture is in favour of the value of the line fish.

3379. In the case of round fish, but not in the case of flat fish, is that so?—Yes, it is the same.

3380. Are the best flat fish that are marketed trawl-caught fish?—The finest kinds are very largely caught by the trawl, but if they were caught by the line and landed quickly they would fetch a better price than if caught in the trawl.

3381. So that, taking the flat fish and the round fish together, the difference in price for that obtained for line-caught fish as shown in your table, and trawl-caught fish in the two cases would amount to something like a quarter of a million of money; that is to say, if the line-caught fish could be brought to market quicker than they can be they would really and truly fetch a quarter of a million more money than they do at present?—Undoubtedly; that is my evidence.

3382. And that money ought to attract, ought it not, railway companies and owners of steam ships, if they knew that by offering additional facilities that much higher prices could be obtained?—The higher price does not affect

Mr. Renshaw—continued.

the railway company; it is the carriage which affects them. The railway companies do not get the benefit of the higher price; it is the fisherman who gets that, and it is difficult to get the railway company to look beyond the rate of carriage per ton.

3383. But still there is an immense margin for trade which ought to be an attraction, ought it not?—There is an immense fund of national wealth in getting the distant sea produce brought nearer to the market.

3384. Then, with reference to the tabulated statement at the foot of the statistics before us, am I right in saying that while about one-sixtieth of the total number of fishermen employed in the fishing industry in Scotland are engaged on beam trawl vessels, about one-sixth of the total value of fish taken is taken upon beam trawlers?—That is so.

3385. The figures are surprising?—They are very surprising when you think of the few men employed compared with the value, but, then, when you come to the question of money, the difference is not nearly so great; but, undoubtedly, the question of the employment of the fishermen is a most serious one as regards the trawling question.

3386. In regard to the question of the protection of these fishing industries, I think you expressed a very decided preference for special vessels engaged in the industry, such as tugs under the Fishery Board. Would it meet your view at all if the Admiralty provided vessels, and you had a trained class of watchers that could be put upon such Admiralty vessels when they were upon these particular stations, and in that way secure a good police for your districts?—I fear that there the detective on board would want to have command of the ship, and there would be collision. I do not think really the Admiralty vessels are well adapted for the purpose, and I do not think the men are good for the purpose either. Therefore, for efficiency and economy, it would be better to do it the other way; but, by all means, if the Committee could, let it be determined once and for all who is to be responsible, because, just now, we are somewhere between heaven and earth, and we have neither one nor the other.

3387. Complaints are very general from all parts of Scotland as to the insufficiency of the police, are they not?—Yes, very general.

Chairman.

3388. Is there any other point you wish to bring before the Committee?—I do not know whether it would interest the Committee, but I have a statement here of the number of fish that is imported into Scotland, amounting to a value of 91,000*l.*

3389. Will you hand in the table?—Yes. (*The table was handed in.*) I have also here a table which is very imperfect, but which may be of some interest, giving the results of 1891-92, when the Moray Firth was open to trawlers, and the results of the five months since it was closed to trawlers. I give this explanation only that it is interesting to show it as it is, and

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and must not be accepted with too many conclusions, because five months is a very short time to show the result. I also hand it in for the purpose of showing that we are so badly equipped with regard to our vessels and means of protection and means of making scientific experiments that I think we are not doing anything like what, as a Board, we ought to do, in taking real and thoroughly accurate statistics as to what the results of these experiments are. I think it is of the very first importance that all the information we have with regard to the effect of trawling should be based on the ascertained facts. We have not done as well as we ought to be able to do. It may interest the Committee, however, to see what has been the result. I may further

Chairman—continued.

add that it has not caused an entire stoppage of the fishing, which the trawling interests indicated it would, if the bye-law were passed in that district; that is to say, it has modified the extreme opinions on both sides that were placed before us.

Mr. Harry Foster.

3390. Do you mean the return is reliable, or that it is imperfect in itself?—The figures are reliable for the five months, but still there are many collateral questions. I have only taken the presumable harbours that the fish would be landed at from the Moray Firth; it is possible other fish may come in. (*The table was handed in.*)

Professor WILLIAM CARMICHAEL MCINTOSH, called in; and Examined.

Chairman.

3391. YOU are a professor of natural history of the University of St. Andrews, director of the St. Andrews Marine Laboratory, and a member of the Fishery Board for Scotland, are you not?—Yes.

3392. You have given a good deal of attention to the subject of fisheries, both in their practical aspect and also in their scientific aspect, have you not?—Yes.

3393. You did a considerable amount of work for the Trawling Commission, which sat in 1883 and 1884, did you not?—That is so.

3394. Have you any general remarks which you would like to make, in the first instance with regard to the present position of Scotch Fisheries?—I have. I may mention that I drew up last year, wholly irrespective of any Committee or Commission, a statement upon the subject, which I think I have handed in to you, Sir. That is a statement, a copy of which I, unfortunately, have not brought with me. I may mention that there is a very considerable difficulty experienced in contrasting the present condition of the fisheries with the past, in so far as the methods of modern times differ very considerably from those of former days, and then the power has been very considerably extended by which fishes have been captured. I therefore commence with that as a caution in regard to the comparison of present statistics with past statistics. Then, again, steam trawling is a method of fishing which is of recent introduction, and so is the use of steam in regard to liners. Then a very important point is the fact that reliable statistics have only been available for a comparatively short period; indeed, only from the period of the Royal Commission on Trawling. One of the most important labours undertaken by that Commission was the institution of an accurate series of statistics in Scotland.

3395. Or rather, the recommendation that they should be instituted?—Yes. I may mention, further, that the present is a period in which the experiment of closing certain waters against trawlers is being tried; and I may mention also

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that, notwithstanding six years have passed since the closure has been established in certain waters, it cannot be said that a decisive result has yet been obtained, though the local fishermen have been benefited mainly by the fact that they can leave their lines in the water and return for them at leisure.

3396. Then you do not think, so far as you have at present gone, that there is any proof that the closing of these waters against trawlers has resulted in an increase of the fish found in them?—Not so far as the investigations have gone. In fact the statistics of the "Garland" will show that in the closed areas there is actually a diminution of the fish; that is to say, comparing the "Garland's" trawlings of the present with previous years, there is absolutely a diminution of fish in those areas. I would give the caution however, that the "Garland's" work has been done in daylight.

3397. And, of course, the trawling is principally done at night?—Yes.

3398. All the best hauls of the trawl are done at night, are they not?—Yes; the proportion might be something like this: by day the catch would be something like, say, 10; by night, say, 50 or 60. A very great difference indeed results there.

3399. Do you think this closing of the territorial waters has been anything in the shape of protection to spawning fish?—I think not. I think I mentioned that to the Trawling Commission.

3400. Would you, from your large knowledge and experiments on the subject, be of opinion that the spawning of food fishes principally takes place in the open ocean?—Yes, beyond the three-mile limit.

3401. In the deeper water?—In the deeper water.

3402. Would it be in accordance with your views to say that after the young fish get hatched out they by degrees find their way out into the shallow waters along the shore?—That is so; not only the young fishes, but the eggs are floated in. The floating spawn is carried into

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the bays and estuaries and developed, there as the case may be.

3403. Do you know of your own knowledge and experience that the spawn of all food fishes practically, except the herring, is held in suspension in the water?—That is so.

3404. And is hatched out in suspension in the water, and does not rest on the bottom, nor is attached to weeds, rocks, or anything else?—That is so. The only exception is the herring. Even the sprat is well known to have floating eggs, and it is a close ally of the herring.

3405. Therefore, the charge that the spawn is destroyed by the trawl passing over the bottom of the sea, or by other things of that sort, is sheer moonshine?—Quite so. There is this to be said with regard to that point, young fishes, immediately on escaping from the egg, may be damaged by the trawl; so might the young herrings that escape from the eggs that are on the bottom; they have not strength at first to rise up, and therefore if a trawl went over them in that condition I should expect injury.

3406. But then you are taking the case of the herring which does spawn on the bottom?—Yes.

3407. But we must put the herring in a category by itself in this question, must we not?—Yes.

3408. But with regard to all the other food fishes, the idea of damage by trawl or fishing machines at the bottom is nonsense, you say?—It is not to be entertained with regard to the eggs.

3409. Is that a personal opinion of you own, or is it an opinion generally accepted by all scientific men at the present time?—It is accepted by scientific men experienced in the Department.

3410. I suppose the only people really with whom doubt now remains is a certain number of fishermen who have not been sufficiently instructed?—That is so.

3411. And who do find in their nets on the bottom spawn of fishes and sea life; but which is not the spawn or eggs of food fish?—Certainly not. They may find spawn, for instance, of the Cottus and other little fishes, suckers, and so on, but certainly not the spawn of food fishes.

Mr. Harry Foster.

3412. Does that observation apply to young food fish as well as to spawn; do you say no young food fish are injured by the trawl?—I made the exception with regard to the herring.

3413. I mean with the exception of the herring?—I would not speak strongly upon that point, because it is quite possible that a little plaice after it goes to the bottom, after the eye gets round, so that both eyes are on one side, might be injured, but we have no evidence, and science does not believe in that injury unless there is proof. We have no proof, and we have carefully looked for it in every trawl, of injury to these little things when they first go to the bottom, and when they are in a condition likely to be injured by a trawl.

Chairman.

3414. Do you believe there is a necessity of steps being taken to secure the maintenance of supply of food fishes?—I think we have now arrived at a stage when some steps of that kind might be taken with advantage.

3415. Do you consider that the period has arrived when there is a marked decline in the produce of the sea?—It is not very marked, I must say. Statistics do not bring such out very boldly, but taking everything into consideration, and from the fact that the size of our best food fishes is diminishing, I think we have now reached the stage when an experiment of the kind might be made with advantage to the fisheries.

Dr. Clark.

3416. Is that observation with reference to Scotland only?—I am speaking chiefly with regard to Scotland, although it would apply anywhere. I am not altogether unfamiliar with English fisheries although speaking as to Scotland.

Chairman.

3417. We have heard a great deal about the great diminution in the supply of soles; can you speak at all with regard to that?—Not very decidedly; I would rather leave that to those who have specially studied the matter.

3418. Of course the sole is a comparatively rare form of fish off the Scotch coasts?—Yes, it is, but I have worked at them off Scarborough and elsewhere.

3419. But off the Scotch coast the real sole is a rare form of fish, is it not?—Yes, it is, although caught occasionally by both liners and trawlers.

3420. The turbot and halibut are both common forms off the Scotch coast, are they not?—Yes.

3421. What would you say with regard to them?—With regard to their numbers?

3422. Yes?—There is greater difficulty in keeping up the supply.

3423. Do you think in the Scotch markets the supply of turbot and halibut has fallen off?—Yes, there is a difficulty in keeping up the number. The chief supply of Scotch halibut comes from Faroe, coast of Norway, and similar regions.

3424. Do you attribute such diminution as has taken place in these various forms of fish life to the practice and development of steam trawling?—I am not quite sure that I can attribute it wholly to steam trawling, because we know that in countries where steam trawling has never been introduced the same diminution of the in-shore and the near off-shore fishes has happened, and I do not know therefore that we can speak very strongly about that.

3425. Then do you attribute it to general over-fishing of all sorts?—That is probably the reason, in my opinion.

3426. With regard to the herring fisheries, do you think there has been any sort of diminution in the number of herrings to be found?—So far as we can observe, no.

3427. Then with regard to the herrings, so far as the supply of herrings is concerned, we may leave that aside?—Yes.

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Mr. Buchanan.

3428. May I ask what countries you referred to just now when you said there was an equal diminution?—I was speaking specially of Australia, America, and the Fjords of Norway.

Commander Bethell.

3429. The fish you say have diminished there?—Yes.

Chairman.

3430. I am afraid that our Scotch Oyster Fisheries have almost died out, have they not?—Very much so, they have been quite neglected, and in some cases ruined.

3431. Mussels I do not say are in as bad a condition, but they are in a wretched condition, are they not?—True.

3432. With regard to other shell fish, the lobster and the crab, do you think they require attention?—They also require attention; though I must say that this year the lobster and crab fishing has improved, but speaking generally I should say both require immediate attention.

3433. To come to the question on which, I suppose, this Committee was first instituted, namely, the question of immature fishes, and the way to prevent their capture, could you at all tell us, so far as Scotland is concerned, what methods mostly result in the capture of immature fish?—In the first place, liners, to take the largest class of fishermen, are responsible for the capture of many immature fishes. From time immemorial, such has been the case. Their hooks capture both small haddocks and other immature fishes; and a good deal depends on the size of the hook, a fact which the fishermen know very well themselves. Thus, if they wish to catch, for instance, small dabs, they use what is called number 21 hook, whereas in ordinary haddock fishing they use number 19, a considerably larger hook. We also observe that places where the very small hook is used (I need not mention names) are characterized by large captures of very small haddocks, haddocks which really ought not to be caught if it could be avoided.

3434. Do you think it is practicable to remedy this state of things?—In regard to the liners?

3435. Yes?—Something might be done; I think the men themselves, in certain districts at any rate, see that the small hook is the cause of the capture of many of these immature fishes.

3436. Do you think the Scotch fishermen would stand being limited as to the size of hook which he is to use?—It is somewhat doubtful perhaps, but a general caution might be of advantage. I think they are rather sensitive with regard to any interference of that kind, but there is no question about the fact.

3437. Do the line fishers of Scotland capture many small flat fish also, plaice, for instance?—They do at present, but that is an industry which I may mention has grown up since the waters were enclosed. For example, take one of the sandy bays within the three mile limit, no trawler dare enter there, so that the liner has complete control of the situation. He puts out lines of very great length indeed, forming a network through the place, and leaves them there

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Chairman—continued.

at night, comes again in the morning, and taking them up, replaces them with others. He catches plaice from seven and eleven inches long in great quantities, and sends them off by the ton.

3438. Where are these plaice used?—They are sent to large towns, and a very good price is got for them. It is a fair industry.

3439. Then with regard to Scotch experience at any rate, plaice of from seven to twelve inches are a very marketable class of fish?—Yes, a very marketable class of fish, there is always a ready demand for them. They often get more for a box of plaice of that kind than they will for a box of good haddocks.

3440. Do you think it desirable to do anything to check that class of fishing?—That is a question for the Committee.

3441. I want your opinion to guide the Committee?—I really think it is desirable to check the capture of a plaice of seven inches. The public is deprived of a large amount of food by the capture of such a fish. A fish of seven inches would probably grow to a plaice of 18 inches, and would have a chance of reproducing itself.

3442. A plaice does not spawn until it gets to 14 or 15 inches, does it?—In our waters 17 or 18 inches, in the southern waters about 12 inches. In Scotch waters I never found a spawning plaice less than 17 inches.

Commander Bethell.

3443. Is that on account of the temperature of the water?—That is a main feature no doubt. It is the fact that the southern coast differs from ours in that respect.

Chairman.

3444. Then is it the fact really, that the closing of these beds to the steam trawler has resulted in the reduction of the number of plaice in them, owing to the system of line-fishing which has grown up?—I have a general impression (I do not speak from statistics) that these waters, so far as I can observe, are very much in the same condition as they were when they were closed.

3445. Would you tell me what would be the limit in size, supposing a restriction was put on the size, under which a plaice should not be landed or sold. What size would you put for a plaice?—That is an extremely difficult question to answer, viewing it from all sides, but I would suggest, for instance, that no plaice should be sold, if any restrictions were to be made, under, say, 10 or 12 inches.

3446. There is a good deal of difference between 10 and 12 inches, is there not?—No doubt about that, but I wish to leave an elastic margin—12 inches certainly. If you ask me to come to a point, I say 12 inches.

3447. To leave the liners; what about the immature fish caught by the trawler off the coast of Scotland?—The trawlers do capture many immature fishes in trawls.

3448. Is it your experience that much of the immature fish that comes up in a trawl is alive? Perhaps I should qualify my statement by saying that, in the best managed ships, comparatively few

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Prof. McINTOSH.

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valuable fishes are lost in that way—to judge from the experiments of 1883 and 1884. The loss of immature fishes in well-managed trawlers consisted chiefly of two kinds of dabs, namely, the ordinary dab and the long rough. The loss of small round fishes was rare; they were tabled, and on examination it was found the round fish were extremely rare, and the only two fishes that suffered in the ordinary steam trawler to which I refer were these two dabs.

3449. Are there any localities off the coast of Scotland where many small plaice are captured by trawlers?—Do you refer to this moment or during former days.

3450. At either time?—In former days the in-shore waters where there were flat sandy bays, were favourite grounds for certain trawlers, who made a practice of catching these small plaice. As many as 60 boxes have been taken from a bay like that of St. Andrews, for instance, and from the waters close in shore.

3451. Would it be your opinion that at the present time, with the in-shore waters closed against trawlers, there is no necessity for making regulations with regard to the capture of immature fish, so far as trawlers are concerned, off the Scotch coast?—I think if any regulations are made all classes of fishermen should be included, the liner as well as the trawler, the steam trawler and other bodies of fishermen, such as stake-net fishermen, who capture, I may say, a considerable number of turbot, a very valuable fish, in stake nets, on the sandy beaches,—turbot ranging from five to ten inches. As a rule, these are only used for crab-bait, and, therefore, such is a loss, comparatively speaking.

3452. I suppose the same thing takes place in the stake-nets and other nets used in the estuaries for one sort of fish and another?—Yes, immature fish are captured there also in the salmon stake-nets, and the nets for trout in the estuaries.

3453. Would you recommend a limit should be put on the capture of small fish of all sorts so far as Scotland is concerned?—I have a tendency to give that recommendation, but difficulties bristle at every point. You cannot prevent these immature fishes being caught in all cases either by line, by trawl, by stake-net, or by anything else.

3454. I think we must admit that it is impossible to prohibit the capture?—Yes.

3455. But could you prohibit the sale or landing of them, do you think?—The consideration comes in if they are captured and injured irretrievably so that they would not live,—would it be right to have them thrown into the sea, would it not be better rather that the fishermen should have them for food, but perhaps not for sale.

3456. Then do I understand that sooner than put a limitation on size you would prefer to regulate the modes of capture?—Yes, to a large extent.

3457. You would like to say only a particular size hook should be used by the liners, and only certain mesh-nets should be used by net-fishermen, is that what you mean?—Not altogether.

3458. What would you propose?—I propose all of them, that not only should the hook be

Chairman—continued.

larger, and the mesh larger, but if immature fish are captured they should not be sold, but used as food only.

3459. You would only allow the fisherman himself to eat them or give them away, and not allow him to sell them?—I would not allow him to sell them, and that would perhaps stop a good deal of it.

3460. Then you would take away apparently a considerable industry, say from St. Andrews at this moment. You say there is a large trade there in these small plaice?—Yes, there is no doubt it would press as a hardship upon these men, but it would be for the benefit of the fisheries. Then, speaking of immature fishes, the shrimp trawls and shrimp nets are responsible for a vast destruction of young fishes.

3461. The amount of shrimping on the Scotch coast is not great, is it?—No, it is not great, that is chiefly an English question; but I have happened to observe English waters as well, and there is no doubt great destruction is done by the shrimp trawl. I consider the shrimp trawl a much more destructive agent to immature fishes than the ordinary trawl.

3462. Do you, from your experience of a trawl, think anything can be done in the matter of regulating the mesh in the trawl net?—A little; instead of having 1½ inch mesh at the coddend it might be made a little larger. That was a suggestion of mine in former years, and I adhere to it now. Then the question of how long a trawl ought to be kept down is a very important one in regard to the vitality to the fish captured. If a trawl has been down a comparatively short time and the ground is smooth, a considerable proportion of the immature fishes will live, and might be replaced in the water, whereas when a trawl is down five or six hours, and the ground is rough or muddy, few of the fishes would survive.

3463. But it would be very difficult to enforce any such regulation as that on board a trawler, would it not, unless you had a policeman on board every ship?—Yes. And also there is the question of raising the heavy net into the ship. If the net could be emptied upon a raft outside the ship so that the weight of the fishes would not be hung in the air, many of them would survive and the loss of life would be very much less.

3464. Would you be inclined to make any regulation with regard to prohibiting fish being used as manure?—Wholly. It ought to be prevented except where certain circumstances compel a fisherman to come on shore with a large capture, say of herring or other fishes unfit for food. In such a case as that, or in other cases which might arise, an order from the health officer or sanitary inspector might be got. No fish or shellfish should be used as manure, except under a warrant or certificate of the health officer or the sanitary inspector.

Dr. Tanner.

3465. Why shell-fish?—Because shell-fish are occasionally used as manure.

3466. Do

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[Continued.]

Commander Bethell.

3466. Do they fetch money as manure?—They fetch money as manure.

Chairman.

3467. Your chairman seemed rather to favour the idea of close seasons being instituted. What is your view on that question?—That is another question which also bristles with difficulties, because what might be a close season for one fish would not suit another, but I agree with the chairman so far that a close season, say from January to the end of April, would cover the spawning period of the most important of our fishes, leaving out, however, unfortunately, turbot and soles, the latter, of course, not being a very important matter in regard to Scotch fisheries. But these four months that I speak of would cover the spawning period of our most valuable fishes, such as plaice, cod, hake, whiting, ling, and so forth, and halibut would be included to a certain extent also.

3468. It would be impossible to fix a close season for those four months of the year, would it not?—Yes; because the men would be deprived of their living.

3469. And also it is a part of the year which includes Lent, in which fish is in most demand?—No doubt; there is however a modification that might be thought of, namely, for one season to stop fishing with small hooks for certain months, or a month as the case may be, though a month is a very short period and would not do much good, and perhaps it might be extended with advantage. Let the fishermen fish with large hooks, say, one season. They would not be deprived of an occupation; they would go to the deep sea fishing, and capture cod, ling, and other large fishes, the haddocks meanwhile propagating at that part. Next season let them use their small hooks, and let the large fishes propagate; they would not be deprived of an occupation in that way.

3470. But surely the year that you stop the use of the small hooks you would also stop the sea-going power of all that portion of the sea-going population which has not got big boats, would you not?—Yes; quite so, though large fishes can also be captured in shore.

3571. So that really you would throw out of employment that very class of men amongst the fishermen who is nearest starvation at all times, would you not?—No doubt it would affect those men. I merely made that remark as a suggestion. It is possible to get out of certain difficulties by an alternative of that kind. But the fixing of a close season is a very intricate question, both for the ordinary white fishes, and for the herring.

3472. With regard to the question of herrings, I should like to know what your view about that is?—So far as I can see, the present idea of a close season has no connection with spawning. It is a question, apparently, of a spent fish or a small fish, either one or the other, but has no relation to the periods of spawning. No proposal has ever been brought forward so far as I have seen that would limit the period to these times, namely, early in the year and autumn.

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Chairman—continued.

3473. Do you believe that it would be of any material advantage to the Scottish herring fisheries to institute such close seasons as are now asked for?—I would rather not give an opinion, because I have not specially taken up the point. It seemed to be arbitrary and unscientific, and therefore I have not given much attention to it.

3474. Are not the grounds on which these close seasons are asked rather that the effect of fishing during the times proposed to be prohibited drives the shoals further off the shore?—That is the view, I believe.

3475. That by fishing too early you break up shoals?—Yes, and also capture inferior fishes; but I think the grounds are not at all scientific; they have no relation to re-production or to other matter bearing on the scientific question, and therefore it is unnecessary for me to speak about them.

3476. With regard to shell fish, I suppose a close time would be much easier, would it not?—Do you mean as to oysters?

3477. No. I mean crabs and lobsters?—Yes. the same difficulty would not be experienced with regard to those. Of course, mussels do not require so much a close season as cultivation.

3478. You suggested just now that it might be well to prohibit or regulate certain methods of fishing. Would you tell us to what particular instruments you more particularly refer?—I specially refer to shrimp nets and shrimp trawls. I think that traps might be made to capture shrimps, and thus the use of shrimp trawls and shrimp nets would cease. I think it is quite possible that a shrimp trap could be constructed to capture shrimps only, or at any rate mainly, and thus neither shrimp trawl nor net would require to be used. There is no question that the shrimp trawl and the shrimp net are both extremely destructive to young flat fishes, and also to young round fishes. Take the shrimp nets in the Thames opposite Canvey Island, not only flat fishes, but round fishes such as young whiting, are killed in large numbers, and all for the sake of the shrimps, which are not used so very largely for food, although they bring in a considerable revenue, I believe. But by the use of a trap this might be prevented. The French have been experimenting in that direction, but the trap wants modification; it is not perfect. Then the bag-nets for sprats in estuaries are very much in want of attention. These are huge nets about 90 yards in length, are fixed to the bow of the boat, extend about 24 feet in depth, and into which the current carries everything. All small fishes are carried right into these nets as well as the sprats themselves, and very great destruction is thus caused to young flat fishes and to young cod and whiting in the estuaries. I do not speak just now of the salmon, which occasionally goes in, because that is another question; but the small fishes are killed in large numbers by those nets for sprats. Then seine nets for trout in the estuaries of rivers are also a cause of considerable destruction to young flat fishes. Plaice, dabs and young turbot, especially plaice and dabs, suffer from the seine nets in the estuaries.

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3479. Would

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Prof. McINTOSH.

[*Continued.**Chairman—continued.*

3479. Would you give power to different localities to prohibit these various forms of fishing, or would you prohibit them altogether yourself? —I think that in the case of a shrimp trawl and net, if the trap is found satisfactory, there can be no difficulty in abolishing them altogether, and there is no doubt great benefit would result to the fisheries. I am quite aware of the value of the shrimps, but if the traps were satisfactory, as a little ingenuity would make

Chairman—continued.

them, then the shrimp trawls and nets should cease. The bag-nets for sprats should cease, the same with seine nets for trout in the estuaries also, unless under licences granted by the Fishery Board. Then salmon stake-net fishers only want the caution that all small flat fishes should be returned uninjured to the water, and should not be used for crab bait, or for any other purposes.

Thursday, 8th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Mr. Heneage.
Major Jones.

Mr. Kearley.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

Professor. WILLIAM CARMICHAEL MCINTOSH, re-called ; and further Examined.

Chairman.

3480. I SHOULD like to ask you do you think it would be possible to protect certain defined areas of the sea?—That was the point I was coming to.

3481. Can you give us some account of the results of the closing of certain defined areas of Scotland in consequence of the Act which followed the Report of the Trawling Commission?—Yes; the Firth of Forth, St. Andrews Bay, Aberdeen Bay, the whole area within the three-mile limit, and lastly, the Moray Firth, have been successively closed against trawling; the three first were closed in April 1886, and sufficient time has now elapsed, as far as we know, for the growth to maturity of any food-fish likely to be met with within these areas. Besides, the condition of those areas was well known previous to 1886. The Commission did make suggestions to which I shall not allude as they are already in print. The Fishery Board in carrying out the provisions of the Act adopted the following course. A yacht, the "Garland," of about 90 feet in length and of narrow build, was purchased and fitted up as a trawler with a beam of 25 feet, or little more than half the length of that employed by the ships in which the trawling experiments of 1884 were carried out. A naturalist was placed on board whose duties were chiefly to return statistics of the hauls to the central office, and a similar arrangement is still in practice. It was soon found, however, that the ship could not cope with the rough seas of the eastern shores, especially in winter, so that the observations of the more distant fishing grounds, and even the examination of certain in-shore areas could only be carried out in favourable weather. Last year I printed a summary of the results of that trawling, and I need not go into that because it is in the hands of the Committee. I think it can be taken as applying to this point.

3482. What was the general opinion that you formed as to the results of those experiments?—That comparatively little change took place in these areas; of course, the experiment was more

Chairman—continued.

or less an incomplete experiment, in so far as the bays and areas were not closed to liners.

3483. But under the Act the Fishery Board had power to stop any sort of fishing, had it not?—Yes, according to the Act.

3484. Within territorial waters?—Within territorial waters.

3485. And as a matter of fact they only stopped trawling?—They only stopped trawling; it was considered a hardship by some with regard to the liners. These areas were very well known before trawling was stopped, and were carefully examined during the experiment in certain lines definitely fixed and worked upon at stated intervals, but only by day, as a rule. From personal observation in certain cases, as well as the results of the experiment noted, it is my impression that no marked change has taken place either in the size of the fishes in these bays or with regard to their abundance as a consequence of the interdiction of trawling.

3486. Do you think it is desirable these experiments should go on in the future?—I think so, but with a totally different ship.

3487. On what lines would you recommend their continuance?—I suggest the continuance on the lines that I recommended to the Trawling Commission in 1884, namely, that a proper ship of from 110 to 120 feet, a ship of the best trawler class, should be got with a trawl beam of 50 feet at least, and properly equipped for carrying out such experiments in the rough eastern seas. I may mention that we cannot contrast the results of the experiments of the "Garland" with those carried out in 1884, simply because in one case we have a small beam of 25 feet, and in the other it is 50 to 60 feet, a heavy beam that went to the bottom in deep water and a powerful ship that would meet any heavy sea, which the "Garland" is totally incapable of doing, and the Fishery Board are quite aware of that. The great desideratum at present is a properly equipped ship, speaking especially as to the east coast, and another will

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Chairman—continued.

be wanted for the west coast, as stated by the chairman the other day.

3488. Do you think there will be two ships necessary to carry on scientific experiments besides vessels to act as police boats?—I think the one vessel would do both, with those already in hand. I pointed out the close connection, and emphasize it now between the closed waters and the off-shore waters. You cannot separate the two. The hard and fast line of the three-mile limit is of no consequence with regard to the scientific branch of the fisheries; the areas are so closely related.

3489. As a matter of fact almost the whole of the fishery is carried on outside the three-mile limit, is it not?—Yes, with the exception of the opportunity taken by the liners for setting lines in the closed waters for plaice. They cover the closed areas with a net-work of lines. The spawning fishes are mostly beyond the three-mile limit except in rare cases where the water is deeper, but, as a rule, taking it as a broad principle, the spawning fishes are beyond the three-mile limit.

3490. So that the only advantage of closing the three-mile limit is to save the small fish, is it not?—Yes. Then with regard to the off-shore waters, it would be an important point in connection with the ships mentioned that the spawning areas should be examined thoroughly at various periods of the year, and more accurate information obtained about these very important grounds. The most important areas in the present question are the off-shore spawning grounds and the movement of the fishes associated therewith.

3491. Have you formed any idea of the cost of such work?—I agree with Mr. Esslemont with regard to the cost of the ship.

3492. I mean the total cost per annum. How much does the Board devote now to scientific experiments?—I could not answer that in detail, I think about 2,000/., but the scientific superintendent, Dr. Fulton, will give you details, he has statistics on this question. I do not think the expenditure in money would be very large, perhaps another 500/., or 600/., added to the present amount might cover the larger part of the expenditure.

3493. Would you say that any interference with territorial waters is comparatively unimportant?—Yes, comparatively unimportant. Do you mean interference by the men?

3494. I mean as affecting the fishes generally?—Except in so far as the younger fishes have a better chance of growing larger, and migrating outward, leaving the population, however, very much as it was.

3495. But still, any proposals which are to be of real, material, and permanent benefit to the fishery would have to deal with the off-shore waters, even more than the territorial waters, would it not?—Yes. With regard to the off-shore waters, of course, some of the spawning grounds are within a reasonable distance from the shore, 10 to 12 miles off, but others are further distant, and both one and the other would require an international arrangement. The North Sea, for instance, might be divided into four areas, one area to be used one year and the rest closed, and so on alternately. I throw

Chairman—continued.

that out as a suggestion more than anything else; but a possible way out of the difficulty is that the areas be drawn out, and that one area be worked upon, say during one season, and the others kept closed, and so on alternately.

3496. Is there any other point which you wish specially to refer to?—There is one point with regard to the total value of the Sea Fisheries given by our chairman the other day. That referred to the total cost paid to the fishermen, which is a very different thing from the total cost to the public. You would require to multiply that by four, or about four.

3497. The chairman gave the sum received by the fishermen, did he?—Yes. That is a very important difference. Then in regard to immature fishes, I may give an addendum to what I mentioned. It is that the survival of these depends upon the line they happen to be on. The liners, as a rule, shoot several lines, from five to seven long lines. They rest for a time after shooting the last line, and then they pull them up. Between the putting down of the last line and the taking up of the line first shot a period of about five hours elapses, in certain cases indeed that may be taken as an average. I am speaking of the ordinary large boat fishing. Now, in regard to the survival of the fishes that are hooked, and about which I spoke before, it is clear that the first line hauled up will have the largest proportion of fishes that would survive, and the last line would have very few that would survive. It is a question, therefore, of time, just as in the case of trawling, and a question of being lightly hooked or deeply hooked, and a question of torn gills or entire gills, and so on. There is no doubt that many on the first lines taken up would live if they were lightly hooked; the smaller ones on the other lines generally perish. The flat fishes especially gorge the bait, which is lob worm, and a serious rupture of the gullet with fatal results ensues.

3498. In fact, do you think very few line fish would live after being thrown back into the sea?—Only a certain proportion. I believe Dr. Fulton will produce information as to certain experiments on that question performed on board the "Garland" in tanks of water. Then on the lines many ripe fishes are caught; there is no question about that. It is generally believed that ripe fishes abstain from hooks, but we would have had no ova to carry on our experiments unless we had had the help of the liners who caught the ripe fishes, and who kindly fertilised the eggs at sea and brought them ashore for us. Quite lately we have succeeded in getting halibut eggs which had never yet been hatched. These were procured by the liners from a comparatively small halibut. Then, in speaking of the nets the other day, I pointed out that certain nets might be stopped, or, at any rate, that licences might be given for certain instruments used in the capture of the fishes by the Board or other central authority, so as to keep a control over these instruments for fishing. Then I have one strong opinion to put forward, and that is, besides thinking the time has now arrived for doing something with regard to this question, I also think the time is now ripe for carrying out artificial

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Chairman—continued.

artificial hatching of sea fishes upon a scale worthy of the country.

3499. Has anything of the sort been successfully carried out in other countries?—It has, namely, in Norway, in America, and they are about to start it in Canada.

3500. I know the eggs have been hatched, but have material results been shown to have ensued from such hatching?—Time has not as yet sufficed to show that, I believe. It was stated, I think, in 1884, that the Commission Cod, as they are called in America, had peopled the waters, and we could hardly admit that. In Norway, again, enormous numbers of cod have lately been put into the water, and within the next few years the result of these experiments will be known. But, taking the sole, the turbot, the brill, and other valuable flat-fishes—from the hardihood of the very young fishes just out of the egg and in their subsequent stages, there is no question that the hatching and rearing of these artificially could be carried out with great success in proper apparatus and enclosures.

3501. How long would you think that they ought to be allowed to grow before being turned loose into the sea?—To carry out the experiment properly (of course, it is still a question for experiment) I would recommend enclosed creeks of considerable size, in which the young might be reared to the later stages, and further, that similar enclosed areas might be used for collecting, say, the slightly older stages from the beach, and rearing them to the adult condition in the case of turbot, brill, and soles and similar forms of fishes. Both of these would be extremely valuable experiments, and must be carried out some day. I do not give an opinion that they will be followed by perfect success, but I think the time has come when such things ought to be experimented with—for the sake of further progress. I allude to that in my printed statement. I may mention that the Scotch Fishery Board have already a hatching station at Dunbar, which is just approaching completion. There such eggs will be hatched and put into the creeks, but the want of funds prevents the Board from carrying out the experiment fully at present, and moreover it would have been further advanced but for the deficiency of funds to enable the Board to close the creeks. Then another very important question suggests itself, and that is with regard to the shell-fishes, but before leaving the fishes proper I may hand in a statement concerning the quantities and values of fish landed in Scotland and consumed fresh in each year from 1884 to 1892. This is a very interesting statement, giving all the important fishes; and without exception, I think, or with very trifling exceptions, certainly in regard to the round fishes, there has been a gradual increase from 1884 to 1892.

3502. Is that ground not covered by the statement which has been handed in?—No, this is an independent statement.

3503. Who is it drawn up by?—By the Scotch Fishery Board, and I think it will be interesting, as showing a gradual increase every year from 1884 to 1892 in the case of round fish. In the case of flat fish there has been no diminution in turbot, a considerable increase in halibut, and

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Chairman—continued.

an enormous increase in lemon soles, namely from 4,163 cwt. to 23,350 cwt. I do not allude to price, but that can be seen afterwards. (*The Table was handed in.*)

Commander Bethell.

3504. Is that the take?—That is the take.

3505. Does it give you any idea of the size of the fishes that are taken?—It does not. It is the total quantity of fishes, with the values appended, landed in Scotland, and consumed fresh; so that it is interesting to have a summary on that point. Then in connection with shell-fishes, we may take the question of oysters first. We are very much in want of a simpler method of dealing with oyster beds with regard to the question of foreshore, etc. The present procedure is so cumbrous that no encouragement, or very little encouragement, is given to those who wish to cultivate oysters. If all the cumbrous methods were done away with, and a simple and easily-worked plan introduced, very great progress could be made in Scotland, especially with regard to the culture of oysters on the western coast. I may mention that in this return the diminution of oysters is very marked in Scotland, namely, from 6,456 hundreds in 1883, to in 1892, 3,150 hundreds, a most marked diminution. Then in regard to mussels a corresponding decrease is noted. Mussels are in a very bad way in many cases; they much want administration as is fully known. (*The Table was handed in.*)

Chairman.

3506. Do you think that the proposals contained in the Sea Fisheries Act would be of service?—I think they are good proposals, and if carried out efficiently would make a great change with regard to mussels in Scotland, and that is a very important question as regards the fishermen. If they cannot get bait, they are rendered quite idle, and handicapped in the struggle for existence. I know from experience of the past that an enormous change would be made by well defined regulations which would be of great benefit to the fishing people, and the country at large. Then I have a word to say about the artificial hatching of lobsters. The supply of lobsters in 1883 was 749,800; and in 1892, 741,000, showing a decrease. The Fishery Board have experimented a little with regard to the artificial hatching of lobsters. They have a lobster-hatching pond at Brodrick, in Arran, and, from the results obtained there, it appears to be a good field for further extension. For the lobster centres, ponds at small expense could easily be made, and the berries perhaps hatched; I say perhaps, because we want experiments made with regard to the berries removed from the females and put into trays, hatched there, and kept in the ponds until they reach the size of an inch or two, as the case may be. The ponds would, of course, require to be of some size, but that is easily obtained by enclosing suitable creeks by concrete barriers, which could be done at a small cost. That can be carried out at most of the lobster centres quite easily. I may mention that although crab and lobster fishing has slightly improved lately, that improvement is not to be depended on.

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Chairman—continued.

3507. Do you think for all these purposes Government money should be forthcoming?—I think so,—with regard to the experiments at any rate, which the Scottish Fishery Board would carry out. The expenditure would not be very much for either of these things. Lobster hatching, I may mention, is done in Norway and Newfoundland.

3508. But again, you have not obtained results to show, have you?—Except that in Norway, they were easily reared to a certain stage, and would have lived, but temperature and bad water killed them off; the water was not sufficiently dense.

3509. Then so far as that was concerned, it was a failure, was it?—Yes, in Norway; on the other hand I do not think that would occur on our shores, because the nature of the shore is so different, in Norway the fjords are more or less enclosed waters.

3510. At any rate so far as the likely results of hatcheries, or the success of attempts at hatching sea fish are concerned, we are still entirely in the first experimental stage, are we not?—Yes; I speak cautiously of the probable success, but I think the time has come when the experiment ought to be made, and upon a proper scale. The only other thing I have to mention is that no lobster should be permitted to be sold under 10½ inches.

3511. And what about crabs?—Crabs should be fully five inches. At present I am afraid some of them do not reach five inches.

3512. So that if any restriction was made on the size of crabs and lobsters, you would put it at five inches for crabs and 10½ inches for lobsters, would you not?—Yes, and a great deal of good would be done in each case.

Colonel Cotton-Judrell.

3513. Where do you take the measurement of lobsters?—From the spine to the tail. In the case of crabs it is taken transversely. Then no berried lobster should be sold; no lobster bearing eggs should be allowed to be taken into the market. I believe some are afraid of the men removing the eggs and sending the animal into the market, but that is very easily detected.

Mr. Robert Price.

3514. Of course you are looking at the matter from a simply scientific point of view, are you not?—And also more or less from a practical point of view, I may say.

3515. Because I notice that you advocate a considerable number of remedies, a smaller hook, a close season, and close areas, and so on?—Yes.

3516. Do you agree with Mr. Esslemont that the chief damage arises from the taking of pregnant fish more than from the taking of small fish?—Considerable damage arises from both; I do not know that I incline to either. There is no doubt a very great deal of mischief is done by the destruction of ripe fishes; there is no question about that. I may mention, with regard to that point, that whereas in our waters in former days the larger fishes, such as large haddocks, were numerous, what do you find now?

Mr. Robert Price—continued.

Chiefly haddocks of a smaller size, and we only find the large haddocks in the more remote regions, such as Iceland, where they are about three feet in length. That shows at once that man is treading too closely on the supply.

3517. Mr. Esslemont suggested as a remedy, or, at all events, as a partial remedy, and one which would do a great deal of good, a very short close time, such as a month, did he not?—Yes.

3518. Do you think that would be of any material value?—I have already mentioned that a month was a short period, and I said three months. Further, the recommendation I gave to the Trawling Commission in 1884, I think, should be carried out, namely, that ripe eggs should be fertilised, or even they would fertilise themselves in the sea if put out in the fishing grounds. The fishermen might clean their fishes on the grounds, instead of on shore. If they put their ripe ova overboard a great deal of good would be done, but that was not an original suggestion of mine in 1884; it was taken from the American practice. In certain large stations where they landed the fishes they used to throw the ripe fertilised spawn into the water.

3519. In talking of the size at which you thought the smallest-sized fish should be taken, you suggest for plaice 12 inches, do you not?—Yes.

3520. But you thought 17 inches was the size, did you not, at which they became fertile?—Yes; that was the female fish. We were talking of eggs at the moment. The male, of course, would be of less size, as with most fishes.

3521. What is the average size of the fertilizing male?—It varies very much, but you get it from 11 to 13 inches upon the coast you are dealing with. I am speaking of plaice just now, of course. In the other flat fishes, you find ripe males, as in the common flounder, of four inches; and just as in the case of salmon, you can fertilise eggs from a little fish of four or five inches or even less.

Major Jones.

3522. You told the chairman that a large proportion of the immature fish if thrown overboard would die; have you formed an opinion as to what percentage would die?—I formed an opinion during the Trawling Commission, and it is published there, but I may mention that Dr. Fulton, the scientific superintendent of the Scotch Fishery Board, has performed some experiments lately. These experiments were carefully carried out, the numbers calculated, and he will explain to you in detail the actual numbers. Do you refer to round fishes or flat fishes?

3523. I referred to flat fishes?—And to the trawl especially?

3524. Yes?—If the trawl has been long down the young flat fishes, of course, have less vitality; if the trawl has been a short time down, on a clean sandy ground, almost every one would live.

3525. Have you anything to suggest, by way of remedy, under this head, with regard to the saving of life of immature fish thrown overboard which have been caught by the trawl?—They

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Major Jones—continued.

are also caught by liners. By all methods of fishing immature fishes are caught.

3526. Fish caught by the hook, I take it, would probably die in any event, would they not?—Not the whole of them, but a large proportion would. Of course if they are caught by the edge of the jaw, there would be no difficulty, they would live for a very long time, and we know that some fishes will live for years with a hook in the stomach. In the laboratory we had an eel which lived for two years with a hook in its stomach, and it eventually came out through the skin. But all fishes are not so tenacious as the eel; dog fishes, however, are. A hook may penetrate the membrane round the heart, but yet the fish will swim about and feed as before with the point of a large hook touching the heart every pulsation.

3527. Have you formulated any scheme in your mind, having for its object saving of the life of immature fish thrown overboard?—No; except that the trawl be a short time down, and that if by any measure the weighty trawl could be emptied without being hauled on board by the derrick it would be beneficial.

3528. Do you think it would be possible to enforce a regulation of that kind?—I think it would be very difficult, because in a rough sea they could hardly work any external raft or anything that might be extemporised for emptying the trawl before it is hoisted up. I may mention, in regard to that, that I made an experiment with a special bonnet put on the end of a trawl, a huge apparatus with hoops, so as to keep the meshes taut, and let the fishes out, but there was no improvement with regard to the fishes from that arrangement. Therefore, I cannot suggest anything except by making the general suggestion all round that a larger hook and a slight increase of the mesh, and so on, should be put in force.

3529. Are you of opinion, then, that fish may be caught by the hook, the hook taken out, the fish allowed to run again, and that it would probably live?—In certain cases, where lightly hooked, there is no doubt about that.

3530. Would you care to state a percentage as to that?—No, I would not, because it altogether depends upon what I have already stated as to the particular line it is on, one line upon which it hangs for five hours, and another line upon which it hangs for half-an-hour or three-quarters-of-an-hour. That makes all the difference to a small fish. In the first case it would be seized by starfishes, and more or less injured. In many grounds of the North Sea the starfishes would fasten on it at once.

3531. The mere operation of taking out the hook, and the bleeding, you do not think would kill the fish, do you?—Not if it is lightly hooked, and the gills uninjured.

Mr. Pinkerton.

3532. Are you of opinion that increasing the size of the mesh would have a beneficial effect?—I think so. Instead of 1½ inches at the cod end, I would make it two inches.

3533. We have had evidence here to the effect that when a net was strained the mesh was closed, and that the size of the mesh had no 0.93.

Mr. Pinkerton—continued.

appreciable influence?—I went into this question very minutely in 1884, and from my own observation, and the experience of men all along our eastern shores, the impression was that a larger mesh would do good. The trawlers themselves suggested it, and I believe one company intended, if it did not carry out the intention, to adopt it voluntarily.

3534. But when the strain is on the net, it closes the mesh, does it not?—That is quite true, but why do the men make, for instance, the first part of the net three inches from knot to knot, and the rest of the net smaller. They have a reason for that.

3535. You suggested some remedy for the keeping open of the mesh; how did it work?—Unfortunately not well. An expensive apparatus was experimented with, called a bonnet. It was something like a funnel, which was laced on to the end of the trawl of 50 feet beam and it was not successful. Small fishes got into it as well as into the ordinary cod-end where the strain was put on the mesh.

3536. And I suppose it increased the difficulties of trawling, did it not?—Very much indeed, it took longer to handle.

3537. Would you be in favour of extending the three mile limit?—Yes.

3538. What limit would you suggest?—Eleven or 12 miles in order to simplify the administration.

3539. Would you be in favour of excluding the trawlers from all the bays and land-locked places?—Yes, sandy bays; I think that would be judicious; where deep water occurs, the case would be different.

Mr. Buchanan.

3540. The Trawling Commission was held in 1884, was it not?—1883 and 1884.

3541. The great development in trawling has taken place since that time, has it not?—Precisely so; statistics have, I think, been handed in already, to show you the remarkable increase in trawling.

3542. I see in 1883, there were 47 trawlers, and in 1892, 140?—Yes.

3543. And the tonnage has increased from 2000 to 6500, has it not?—Quite so.

3544. Then do you think that the conclusions the Trawling Commission arrived at would be conclusions this Committee could adopt on the subject now?—I think so; I have been most anxious myself to pick holes in the results then arrived at, and I cannot conscientiously say that my opinions differ very much now from what they were in 1884.

3545. Has there not been any change of opinion on the subject since?—In the minds of the public?

3546. Yes?—There may have been. I have not particularly noticed any special change in that way.

3547. Has there been any change of opinion amongst the experts?—In regard to the effect of trawling?

3548. Yes?—Well, it simply of course has added to the over-fishing; while there has been an increase of trawling, there has been a large diminution of line fishermen in line boats; there are about 700 fewer line boats and about 1,500 men

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men fewer. That has to be taken into consideration when looking at the statistics of results of fish caught.

3549. Has it not been shown by the Scotch Fishery Board itself that this great increase of trawling has in an accumulating degree decreased the supply of fish in the North Sea?—I am not quite prepared to adhere to that. The statistics show, at any rate, that the supplies of fish are keeping fairly up.

3550. I was going to ask you with regard to your table this, whilst you show an increase with regard to round fish and a decrease with regard to flat fish, we must always take into account that the catching power has trebled in that time at least; must we not?—Yes, it has enormously increased, there is no question about that.

3551. So that there must be something to account for the decrease of flat fish and the comparatively small increase with regard to round fish?—Yes, but the seasons differ so much from each other, and you have to take into consideration the number of times the men go out in the year. I can only say that trawling or lining as the case may be, the fishes in the sea manage to keep up in fair numbers on the eastern shores of Scotland; and that very little help on the part of the Committee, I think, with regard to restrictions and the carrying out on a proper scale of artificial hatching stations for valuable fishes such as turbot, soles and so on, would put the matter right, because these things can be introduced quite easily into such a bay as St. Andrews; they are there already. All we want to do is to add to their number largely, and thus increase the value of the fishing in that region.

3552. But we have this fact, have we not, that as regards the flat fish, all except the lemon sole as I understand, have decreased?—Yes; but I must tell you that we cannot altogether depend on these statistics. The statistics, as I have specially pointed out in several publications, are more or less imperfect at this moment; we do not get returns of all the fish landed on the coast of Scotland, far from it.

3553. But we may take it, roughly speaking, that the averages deduced from the tables you and the Fishery Board put in are to be depended upon may we not?—Yes; but they are far from complete.

3554. But the averages to be deduced from them may be depended upon, I suppose?—Within certain limits. I suggested in 1884, so strongly was I impressed with this matter, that each liner, each trawler, each net fisher, each shrimp fisher, and each crab fisher should fill in a little slip of paper on his way home from the area, and hand it in to the coastguard or the harbour master or to the fishery officer or other officer employed for the purpose—every voyage.

3555. Has that been done?—That has never been carried out. I suggest it now.

3556. Do you suggest it to the Committee?—Yes, in a note I think to the Chairman.

3557. That would, of course, very much improve these statistics, would it not?—There is no doubt about that.

3558. And would give us also the locality from

Mr. Buchanan—continued.

which the fish came?—Yes, I gave the heads, the locality, the bait used, and so on.

3559. Still, to return to the subject of your tables, may we take it that the averages to be deduced are to be depended upon?—Yes, they guide us in a sense. They give us a great help indeed in comparison with the condition in 1884, there is no question about that.

3560. Then, besides the figures stating the decrease in flat fish and the small decrease in round fish, I understand you to say there has been a great decrease in the size of fish caught?—There is no question about it, but the trawlers are not responsible for that any more than the liners. The liners have thinned out the large fishes by over fishing generally.

3561. Is that observable as regards most fish?—Yes, in most kinds of fishes.

3562. In all the seas?—Yes, not only in our own country, but elsewhere. Take, for instance, the shores of Norway: all the large cod are thinned out of the fjords, and fishes of all kinds, I believe; and that is a very serious question there at present.

3563. Then, with regard to what you suggested as to dividing the North Sea in areas, did you mean that there should be an international arrangement, and that, say, one quarter of the North Sea should be left unfished this year, and one quarter next year?—Precisely so, on the same principle that I would give countenance to the protection of defined areas.

3564. Have you worked out at all what the areas should be?—No, I have not.

3565. How would that affect the various sorts of fishermen? Would it throw one sort out of employment for a time?—I think not. They would have an area to go to.

3566. How would it affect the herring fishery?—The herring fishery might be excepted; there is no diminution of herrings.

3567. Do you think a scheme of that sort, supposing it were adopted, could be practically worked?—There would be difficulties, no doubt; but the whole subject bristles with difficulties which must be faced somehow.

3568. But if it were practicable, do you think it would be most effective?—More effective, I think, than, perhaps, a size limit to these areas. But I would also advocate a size limit.

3569. For all fishes?—For many important fishes.

3570. Besides flat fish?—Besides flat fish.

3571. Do you think that would also help the matter?—It would make a great change, it might not be carried out with very great strictness. A large margin would need to be given, it is true, but it would have a very beneficial effect with regard to the capture of immature fishes. People would know that public opinion was against the practice, and that of itself would have a good influence.

3572. Whether it was thoroughly carried out or not?—Whether it was thoroughly carried out or not.

3573. There would be very great difficulties, would there not?—Yes.

3574. With regard to the sea hatcheries, would you propose to have additional hatcheries under the Scotch Fishery Board?—Yes.

3575. Two

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3575. Two on each coast, or what is your idea?—My idea is that they must be at places where proper supervision is to be had, and due advantage taken of the opportunities for inspecting and studying the details of the experiments. For instance, that at Dunbar is just a little distant from a centre, but yet it is at a very convenient and very excellent and suitable part as regards the coast. The water is pure and the creeks are adapted for enclosure, and altogether it is a very good place in that respect, but it is a little distant of course for supervision from a centre. I thought of another place at St. Andrews, another at Aberdeen (or at least the nearest point that may be conveniently got there) and so on further north perhaps.

3576. What would the cost be?—The cost would be mainly the cost of the concrete walls. If creeks could be got only requiring a boundary concrete wall the cost would be little, and I think in most cases they could be got. There should be also a proper adjustment with regard to the inflow and reflux of the tide and so forth, or arrangements for pumping.

3577. Of course, there would be supervision too, would there not?—That would be the difficulty. If placed at a remote part of the coast the experiment would be thrown away, because the supervision would not be so minute as it ought to be.

3578. Would you anticipate good results from such a step?—I suggest it as a right step for the country to settle once and for all.

3579. How long has the experiment been at work in Norway?—About four or five years.

3580. Then that is comparatively new too?—Yes.

Commander Bethell.

3581. I am not quite sure that I understand the advantage of the artificial hatching, is it because the spawn, when it is not looked after, gets destroyed in the ordinary course in the sea?—Not so much so as that in the earlier stages of fish life the individual egg runs a series of gauntlets. In the first place the floating eggs are swallowed in hundreds by other fishes. For instance, take the ordinary herring. If you examine the stomach of the herring you will perhaps find a hundred pelagic eggs of food fishes in its stomach. I do not say the herring has wilfully swallowed those, but in gulping down the crustacea it has also taken in the pelagic eggs which are amongst them, and there is very great destruction in that way.

3582. Is it because such destruction occurs that you think the spawn and the eggs might be safeguarded?—Yes, for a certain period of their existence.

3583. It is only just at that time, is it, the very little fishes come in shore, I understand, do they not?—Both eggs and little fish are wafted inshore from the offshore grounds; not only the little fishes but the eggs come in before they are hatched.

3584. Does the hatching take place in shallow water?—Yes, with many common food fishes.

3585. I rather gather from the evidence we have had given us before that these creatures were hatched very often in deep water and

Commander Bethell—continued.

instinctively got into shallow water?—You have both.

3586. Then they work out, do they?—In growing older the flat fish do, and the round fish follow the same habit.

3587. In proportion to the enormous quantity of spawn there must be, do you suppose any artificial hatching would have any effect?—It would require to be on a large scale, and in suitable areas, so as to give a reasonable field for observing the details, and seeing whether the experiment was worthy of further trial or not. For instance now, a sandy bay like St. Andrews might be selected for the soles. Experiments there could be carried out very efficiently indeed. For years I have urged the sending of a ship to Scarborough, for the capture of a large number of soles and bringing them up in an adult or semi-adult condition, and putting them in this bay. That is of course artificial hatching in another way, because the creatures would become ripe and shed their spawn in the bay. That would be an experiment of real value, and could be cheaply carried out. The "Garland" could do it very well.

3588. Then the drifting about of the spawn has to do with the final fertilisation, has it not?—Yes; I never met with an unfertilised egg in the sea, not one.

3589. Special precautions could be taken in that respect, I suppose?—With regard to hatching?

3590. Yes?—It is very easily carried out; the fishermen do it for us on board their boats, those who formerly did not believe any such thing happened, and believed that the eggs went to the bottom, and were deposited on the bottom, these very men now artificially fertilise the floating eggs, and bring them into the laboratory.

3591. You said just now that in some experiments on the coast of Norway some fish had died?—Yes, these were lobsters; the water had too low a specific gravity, and I believe also a severe frost set in, and great destruction resulted.

3592. Is not the lobster a native of the coast of Norway?—The numbers have largely decreased there.

3593. Why should the experimental fish die if the creature lives there?—The experiment was badly carried out.

3594. Do I understand that you are not satisfied that the steam trawling is by any means the main cause of the diminution of the fishes?—I think all the modes of fishing are responsible.

3595. I also make out that you are not satisfied that a close time has by any means proved to be satisfactory?—It would be very difficult of application, but by closing defined areas a kind of close time could readily be made, of course.

3596. I gathered from you that you were not quite satisfied that that would produce results which would be satisfactory?—That is an open question yet. It is a question yet to be answered.

3597. Do the fishes diminish in Australia, America, and Norway, to anything like the same

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same extent as they diminish, say, at the Dogger Bank?—In some cases.

3598. I think one of your reasons for saying you did not attach so very much value to steam trawling was that fish had equally diminished in Australia, America, and Norway, where there is no steam trawling?—They have diminished to a large extent.

3599. Anything like the same extent?—I am not in a position to make accurate comparisons, of course, because statistics vary so much; but there is a very considerable diminution, and almost a disappearance of certain fisheries in those countries, owing to the imprudent measures used in capture.

3600. It is quite certain, at any rate, that the fishes that are caught now on the whole are much smaller than they were, although the weight of the fishes caught keeps up, is not that so?—That is my impression. I am speaking of both round and flat fishes in saying that.

3601. Are you satisfied that there is a diminution of fish?—Not to a large extent.

3602. If the catching power has increased four times, and if the take of fish remains about the same it is a certain inference, is it not, in the first place, that the size of the individual fish must be much less; and in the second place, if not at this moment, in a very short time it must lead to a large diminution, must it not?—I did not say four times. I was talking specially of trawling when I said there is a large increase of boats, but, of course, there is a large diminution of liners to the extent of 700 boats and about 1,500 men.

3603. I was rather struck with your saying, I thought rather decidedly, that you were not satisfied there was a considerable diminution of fishes?—Not to the extent generally believed. That is, perhaps, putting it in the best possible way.

3604. But is not there a certain inference to be drawn that in a very short time the diminution must be very marked?—I have very great faith in the sea.

3605. Do the herrings come down the coast of England, or how far south do they come?—I do not know the details as to that, except that they are caught off the north coast of England.

3606. They do not come down to the south, do they?—I have no personal experience, but I think not very far south. I mean the herring fishing is not carried on south.

3607. I meant the schools of herring?—Quite so.

Chairman.

3608. You get them off Yarmouth, do you not?—Yes, there are plenty off Yarmouth.

Commander *Bethell*.

3609. Where do these schools of herring that come to the south come from?—I could not enter in that question; I do not think we can prove anything about that.

3610. Have there not been any investigations made?—No; the Scotch Board, I may mention, is now carrying out a series of investigations upon that very question, and I would rather not speak about it until they are finished, but with

Commander *Bethell*—continued.

regard to the question of migrations of herring, great caution is needed. It is mostly talk, indeed, without any basis for the facts. Very great caution, indeed, is needed in drawing deductions from statements made about the migrations of herrings. We are in want of data at this moment on the subject.

3611. I suppose there have been no investigations of any accuracy made into the effect of temperature on the breeding of fishes?—The Scotch Board is considering that question at this moment. I may mention with regard to that point, that we are in want of a ship to do it; we cannot do it without a sea-going ship.

Colonel *Cotton-Jodrell*.

3612. You have mentioned once or twice that you have noticed very little difference in the state of the fish in these areas that have been closed?—Just so.

3613. Do you wish the Committee to understand that it is on account of the poor and the imperfect nature of the experiments you have been able to carry out, owing to the ship power not being very suitable, or is it due to the line fishing?—My opinion is this: There is a very intimate or close connection between off-shore and inshore, and that measures or legislation applied to the one and not to the other might not result in benefit. In this case legislation was applied to the inshore, but, as I have already shown, the inshore derives its supply from the off-shore.

3614. You mean fish coming in. Fish, or fish ova, or fish larvæ, or young fishes, as the case may be; the two are so intimately connected that you cannot dis sever them. For instance, now, take the case of the plaice. If you permit upon the spawning ground indiscriminate capture of the adults, where will the inshore get its supply?—It will only draw it from longer distances, and more slowly.

3615. I do not think you quite see the point I want to bring forward. You told us this morning, in answer to the Chairman, something about these areas that had been closed, and mentioned the Moray Firth?—No, that is still *sub judice*; that has been only recently closed. I mentioned St. Andrews Bay.

3616. From the result of your experiments you said you did not see there was very much alteration in the condition of the fish there?—That is so.

3617. Then you proceeded to say that we must not presume that these experiments were entirely reliable, because the "Garland" was a poor ship and only trawled during the day?—The experiments were only not reliable, in so far as that they could not be contrasted with the very accurate ones made in 1884, in the ordinary powerful trawling ships with large beams and high iron trawl heads.

3618. The Chairman then asked you, "Then it is the fact really that the closing of these beds to the steam trawler has resulted in the reduction of the number of plaice killed, owing to the system of line fishing which has grown up?" What I want to know is, are you convinced in your own mind that there is no apparent improvement in the condition of the fishing in

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in these closed areas, because the line fishers have been able to capture so many, or is it because your experiments were not of a perfect description, so that you cannot say?—That is an involved question. In the first place, the plaice are in such enormous numbers that even the taking of these large numbers by the liners would not, I think, seriously vitiate the experiment. What the liners could take out is but a tithe compared to what the trawlers in former days took out. I mentioned that there were 10, 20, or more sailing trawlers, sometimes nine or 10 steam trawlers sweeping that bay for plaice constantly, and, therefore, we could not expect that the catching of fish by the liners would be to the same extent. Yet, at the end of all that harassing depletion, the bay contained a fair amount of fishes. I do not think that it vitiated the experiment to a noteworthy extent.

3619. One would not like it to go through the Committee to the public generally, that if you closed certain areas and give the fish immunity from capture for a certain time, that the area did not improve in the amount of fish which it contained?—We can only go by facts. The facts do not show that any noteworthy increase has taken place, as I have stated in the published summary of evidence.

3620. You suggest do you not as one possible remedy that certain areas should be marked out and defined, and portions of them each season or at some interval of time, should be told off as being closed and the remainder should be thrown open, and that they should be changed and worked alternately?—Yes.

3621. That would require, I suppose, would it not a very much more complete system of police than you have at the present time?—Certainly, an increase in the marine police.

3622. And, therefore, a great increase of expenditure?—But it would be international.

3623. Do any foreign boats come up to your waters?—I think not, except in the herring fishery. They go to Aberdeen and Peterhead in large numbers; a large number of French and Dutch boats go there.

3624. Do you only refer to plaice when you suggest closed areas?—Yes, we do not want to interfere with the herring.

3625. Why should your police arrangements be international if the foreigners do not interfere with you?—They do not come close to the shore on the east coast of Scotland, and that might be taken into consideration in making the arrangements.

3626. Then it would not be necessary there to have an international system of police, would it?—But the areas would extend very much beyond 10 or 12 miles; they would go out 50 miles perhaps.

3627. I asked you whether you had many foreign fishing boats up there, and I understood you to say “no” except for the herrings?—That is not a question I have studied, and I cannot speak with decision on the question of boats of particular kinds; but I do not think there is very much foreign fishing near our Scotch shores. I think the scientific superintendent who is familiar with the statistics on this point will

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Colonel Cotton-Jodrell—continued.

speak more precisely on the matter, but as far as my own knowledge goes, I do not think there is much fishing of that kind.

3628. The areas which you propose to close, would be, I suppose, tolerably near your own shores?—Not necessarily, I include the whole North Sea.

3629. On the question of artificial hatching you alluded to the fjords in Norway. Do you consider that those fjords by their position and nature are more favourably adapted for hatching fish than our creeks, even with your concrete walls?—Yes, in this way that these fjords are more or less inclosures, and the fish fauna is very accurately known, so much so that they are perfectly satisfied as to the diminution. If you go beyond that area you get plenty of cod and other fishes, but in the fjords the inhabitants have over-fished. I may mention that almost every man who lives on the shore there is a fisherman, and has a boat, and every family supports itself by fishing more or less, that is to say, supplies itself with food, hence it is that the fjords have become exhausted. Now these are well adapted for carrying out such an experiment, because very soon the results will be known. If these experiments are successful, they will have an increase in their cod, but at present the cod have diminished in size as well as in numbers. Only small cod are now caught in these fjords, and so with other fishes. If this experiment is successful they will have a large increase in the number of fishes.

3630. Then your experiments, if you are able to carry them out as you propose in those creeks with your concrete walls would be of a more artificial character than those carried on in the fjords, will they?—Yes, we have no distinct line of separation between the margins and the open ocean.

3631. They would be considerably more artificial, would they not?—Very much so; but on the other hand they could be made very accurate; for instance, let us take a bay where only a pair of soles may be caught after trawling a whole night, and that is the best period for catching soles. If after the experiments in artificial hatching of the soles it produced 50 pairs of soles, naturally it would be assumed the experiment had been successful. And if we find in addition that the eggs of the sole, because they are very diagnostic, are found in immense abundance instead of in being scarce as at present, the case would be clear. By drawing a tow net through the water, we can tell you in the case of such a fish as that, the abundance of the soles in the neighbourhood.

3632. Many witnesses have quoted the sizes at which fish becomes matured. Can you tell me at what age fish become matured?—We are rather in doubt about the ages of fishes just now. Experiments and observations are being made at this moment at St. Andrews and Plymouth upon that subject. Do you mean especially with regard to the age of plaice?

3633. Yes, and soles?—We may take the one or the other. If you take a plaice of 12 inches, that fish would be probably two years old.

3634. And at three years old how much bigger would

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Colonel Cotton-Jodrell—continued.

would they be?—That we cannot say decisively, but it would be considerably larger perhaps, 15 to 17 or 18 inches, as the case may be, because marine fishes, like fresh water fishes, are extremely irregular in their rate of growth. We know, for instance, that the salmon at the end of the first year becomes a smolt in many instances, but remains a very small fish of only three inches in other cases. In the same way marine fishes vary very much with regard to their sizes.

Colonel Cotton-Jodrell—continued.

I give you, however, the general result of observations up to date.

3635. Would a sole mature at two years, do you think?—I cannot speak very minutely about the sole. I would leave that to those who have specially worked at it; but, I should think, it would very much follow suit in proportion to its size. It does not grow to so large a size as the plaice, and, therefore, a proportional diminution would have to be made.

DR. WEMYSS FULTON, called in; and Examined.

Chairman.

3636. You are, I believe, at present the superintendent of the scientific experiments carried on by the Fishery Board of Scotland?—Yes.

3637. Have you been in that position for five years?—Yes.

3638. Can you roughly classify the principal forms of fishing that is practised in Scottish waters?—There are three chief forms: the drift net fishing, the white fishing by line and by trawl, and the fishing for shell fish. White fish, generally speaking, are the cod, haddock, plaice, and so forth. They do not include the herrings and sprats, and fish caught by nets.

3639. Then there are the shell fish, are there not?—Yes. The value last year of the first-class (that is, the drift net fishing) was 759,000*l.*; of the white fish (that is, fish and trawl-net fish) 853,000*l.*; and the shell-fish fisheries 80,000*l.*

3640. We have been pretty familiar with these complaints of deterioration of the fishing and over fishing in the past?—Yes.

3641. Have you formed any idea as to how far these complaints have been justified in the past?—I may say that I have studied this question very fully, by reading up the Fishery Reports, Acts of Parliament, and so forth, and I find such complaints have been common previously, and have been due chiefly to the agitation of rival classes of fishermen. Therefore any measures taken or legislation passed to deal with them have not been based upon accurate facts and knowledge. The whole history of fishery legislation shows this, because many Acts have been passed and have in a few years been modified or repealed, or have fallen into abeyance. I think this is really the first fishery enquiry where the complaints are founded, not merely upon the fishermen's ideas, but upon facts and statistics.

3642. Then would you say that, so far as former enquiries have gone, the results of them as translated into legislation have proved futile?—I think so, on the whole.

3643. And that the fisheries have not got much good from the result of previous enquiries?—I think not.

3644. Taking the three great divisions into which you divide the Scottish fisheries, tell us in the first place what you consider to be the present condition of the herring fishery, and whether you think that fishery requires any further legislation or any restrictions laid on it to improve it?—No, I do not think it does, for

Chairman—Continued.

this reason, that statistics show that the herring fishery is not falling off in any respect. In other words, the operations of man in connection with herring have not shown that this fish is subject to over-fishing, and, therefore, I would ask, Why interfere with them? Why impose restrictions and legislation unless required?

3645. Then you would probably say that the complaints that do arise from actual falling off in the herring fishery in different districts arise from the natural migrations and uncertainties of the herring itself?—Just so; and the herring fishery varies very much, I may say, at various parts of the coast for that reason.

3646. Then to come to the white fish fishing on the Scotch coast; what would you say with regard to that?—I should say, in regard to the two great classes, round fish and flat fish, there is this difference: that the flat fish are falling off absolutely, and relatively very largely in comparison with the increase in the means of capture. I think there is not the slightest doubt about that.

3647. Do you think that the complaint of the falling off in the number of flat fish is really based on sound, practical proof?—I think so; and I think the evidence we have from Scotland is quite in keeping with the evidence from other parts of the North Sea.

3648. But so far as the round fish are concerned, would you say that same remark does not apply?—It does not apply in the same way, because the table which I hand in, showing the quantities of round fish, indicates the opposite. The only case where there is a falling off in round fish is in the case of whiting. I show the quantities of fish landed from 1884 to 1892, and I also give an average for the first three and the last three years. In all cases of round fishes, except whiting, the average shows that a very great increase has taken place both in the quantity of fish landed and its value, but in the case of flat fishes there is a decrease in the quantity of all except lemon soles; a decrease in quantity, but I think in every case an increase in price. (*The table was handed in, vide Appendix.*)

3649. Can you give us also some statistics to show the great increase that has taken place in the means of capture?—This is a table showing the beam trawl vessels belonging to Scotland in different years. In 1883 there were 47 with a total tonnage of 2,004 tons. (*The table was handed in, vide Appendix, table.*)

3650. With

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[Continued.]

Chairman—continued.

3650. With regard to that point, it has been raised once or twice before, but I should like to ask you if you are aware whether, previous to 1883, and in 1883, there were a great many English steam vessels which came and fished off the Scotch coasts?—I am not quite certain if many came previous to this, except perhaps to the Firth of Forth and that district, where I think there were several.

3651. Is it not rather the fact that the great development in the Scotch steam trawl fishing companies took place in consequence of the good results obtained by steam trawlers fishing in Scotch waters—coming from English ports?—Just so.

3652. And the English steam trawlers were the pioneers of the Scotch companies, were they not?—Yes.

3653. Therefore it is not quite right to assume, is it, from that table, that because there were only a few Scotch vessels fishing in those earlier years, that there was no steam trawling going on off the Scotch coasts?—No; steam trawling was going on, but to a much smaller extent; and of course English trawlers now fish there in very large numbers.

3654. Of course they are to be added to these figures?—Yes; this table only refers to the Scotch vessels.

Mr. Buchanan.

3655. There has been an increase in the English trawlers fishing in Scotch waters as well as of Scotch trawlers, has there not?—Yes. In 1891 the number of Scotch steam trawlers was 61, with a total tonnage of 5929 tons. The total number of trawlers, including sailing trawlers, was 132, and the tonnage 6484 tons. Now in 1892 the total number of trawlers was 140; that is 47 in 1883 and 140 in 1892; that of course is a very great increase.

3656. And if I may put it they also very much increased in size, did they not?—Yes; they also largely increased in size. Then in ordinary fishing boats there has been a decrease gradually going on; the number in 1883 being 15,247, while last year it was 13,865, showing a decrease of 1382 boats and a decrease in the tonnage of 6878 tons. That refers to ordinary fishing boats.

Chairman.

3657. I suppose the increase in this catch of round fish is due to the catches by the trawlers?—Yes.

3658. I mean so far as the fishing boats are concerned, we must not consider that in the case of the ordinary fishing boats there has been any great increase in the catch of round fish?—No, there has not; the great increase in the round fishes is due to the additional quantity landed by the great number of beam trawlers. For instance, the line fishermen landed 512,000 cwts., and the beam trawlers 210,000 cwts. of haddocks alone in 1892.

3659. But of course, so far as the flat fish are concerned we might almost say with the exception of a certain number of plaice they are caught entirely by the trawlers?—With the exception of halibut also very few halibut are

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Chairman—continued.

caught by the trawlers. The following figures show the quantities landed last year:—

1. ROUND FISHERIES.

—	Cod.	Ling.	Saithe.	Haddock.	Whiting.
By line fishermen -	Cwts. 427,431	Cwts. 150,725½	Cwts. 79,806	Cwts. 512,777	Cwts. 41,848
By beam-trawlers -	39,876	2,616	1,664	210,008	7,266

2. FLAT FISHERIES.

—	Turbot.	Halibut.	Plaice, Flounders and Brill.	Lemon Sole.
By line fishermen -	Cwts. 1,010½	Cwts. 25,148½	Cwts. 26,112	Cwts. 192½
By beam-trawlers -	3,688	131	44,753	23,187

3660. Then would you say that the falling off of flat fish does proceed from over-fishing?—Yes; I think there is no doubt about that.

3661. With regard to the methods that might be proposed to check this over-fishing, do you consider that it would be desirable, or possible, to prohibit the capture of immature fish?—It would be possible to prohibit the capture I think both by hook and by net, but in doing that you would reduce the quantity of fish captured so much that it would not be worth while fishing. If you enlarge the mesh of the net to allow all the immature fish to escape, for instance, then the quantity of fish caught would not pay the fishermen.

3662. Then do I understand you as the former witnesses did, to put aside the proposal of prohibiting the capture as an unpracticable one?—I think it is impracticable. So far as I understand it, the object of urging this legislation is, indirectly, to close certain grounds on the other side of the North Sea.

3663. That is rather a different point. Having put aside the question of the prohibition of capture, what would you say with regard to the proposal to prohibit the landing and sale of fish beyond a certain fixed limit?—I think it would really be of very little use.

3664. Why?—As applied, I may say it, to fishing in the deep sea. In the first place, you cannot prevent the capture without practically stopping the fishing. The fish are in such a condition on board an ordinary trawler that if they were replaced in the sea very few indeed would live, and therefore regulations of this kind would not benefit directly, I believe, the fish supply. If you cannot by regulations of this kind benefit the fish supply by returning the fish, and ensuring that they will be returned, living, to the sea, then I do not see any necessity at all for prohibiting the landing or the sale of the fish. I think it is better that the fish should be brought ashore and sold as food to poor people, rather than be thrown back dead into the sea.

3665. I think there was an Act passed in the last century prohibiting both the capture and the sale and landing, was there not?—Yes, it was passed in 1714.

3666. Can you tell me whether that Act was ever enforced or whether it had any practical effect?—I know at the beginning of this century there was a report of a Select Committee on the South Devon Fisheries, and it was stated there

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Chairman—continued.

that this Act was not enforced. Complaints were made that great numbers of fish were landed under the regulation size, and I have not been able to obtain any evidence that the Act was enforced or made effective.

3667. So far as your knowledge goes, from careful inquiry on the subject, the only attempt that has been made in this direction has been allowed to fall into abeyance entirely, has it not?—Just so; the Act was not repealed until 1868.

3668. Of course, you cannot speak as to the results of any prohibitions of this sort in foreign countries, can you?—No, I cannot speak in regard to that. I would point out this, however, that the sizes adopted abroad are, as a rule, very small sizes. I think almost every fish of these sizes would escape through the trawl net.

3669. Is that your experience with regard to experiments?—Yes.

3670. Would a plaice of eight inches, say, escape generally from a net?—No, not eight inches with the ordinary mesh, but I should say very few plaice of six inches would be caught with the ordinary mesh.

3671. With regard to the closing of any particular waters, do you find a particular distribution of the flat fish off the coast of Scotland?—The only case is as to plaice. The distribution of the plaice is peculiar; the very young fish are found on the sandy margins and the immature fish gradually increase in size as you go out further and further, so that with the plaice, the territorial water is practically a nursery for the young fish.

3672. Do you find that to be the case generally along the coast of Scotland, or only in certain places?—No. I think that is the general rule, and also off the coast of England and Ireland.

3673. Supposing a limit of size were determined on, have you formed any idea as to what would be the reasonable limits of size for the various more valuable flat fish?—I know that a number of people say that if any size is fixed upon it should be the size at which the fish becomes mature, but I think in that case the size would be so large that such a thing would never be carried out. For instance, a cod is not ripe under 20 inches. Now a 20-inch codling is a pretty good sized fish, and the fish under that size caught in Scotland in a year would be worth 10,000*l.* or 12,000*l.*

3674. With regard to flat fish, what do you say on that point?—Turbot becomes mature at about 18 inches; brill at about 16 inches; plaice at about 14 or 15 inches; and lemon sole at about 11 inches.

Mr. Robert Price.

3675. Is that the female fish?—Yes, the female fish.

Chairman.

3676. Professor McIntosh rather seemed to hint that it would be possible to put some limit on the size of the hook, and make a regulation saying that a smaller size of hook than No. 19 should not be used. Do you think that would be practicable?—As a general principle I should say with regard to regulations of this kind, one must consider how they are to be carried out, and the likelihood of their being carried out, and

Chairman—continued.

that is one of the objections I have with regard to regulations as to immature fish. I fear if any regulation is made as to the size of hook, when one considers the number of fishing ports round about the coast, and the number of hooks and so forth, it might be difficult to carry it out, otherwise, it would be useful.

3677. You said just now that you did not think that it would be desirable to prohibit the sale and landing or capture of the immature fish unless you could return them alive to the sea after they were on the deck of the vessel?—Yes.

3678. Can you tell me the results of any experiments that you yourself have made as to vitality of fish after having been caught, whether on line or in trawl?—We carried on on board the "Garland" a number of experiments to determine this point. A large vat was kept on board, and a constant stream of water passed through the vat; the fish were selected, and a record taken; they were measured and put into the vat and kept there half an hour or so; then another record was taken with regard to the vitality of the fish. The general result showed that round fish succumbed rapidly. In the first place I should say the fatality to the fish depended very much indeed upon the nature of the bottom and the length of the haul. A long haul on sandy ground, or a clean bottom, did not do very much damage, but on mud it did a very great deal of damage, and a large proportion of the fish were dead.

Mr. Robert Price.

3679. What do you call a long haul?—The hauls varied from one to five hours. Almost all the whiting especially were killed; and it has just occurred to me, in considering the remarkable decrease in the whiting, whether that fact had anything to do with their decrease, the whiting being such a delicate fish that the slightest injury kills it. Then, in regard to flat fish, they showed a far greater tenacity of life, especially plaice; but lemon soles and dabs died in greater numbers. On the whole, while the percentage of those that lived in those experiments was large, larger, indeed, than I expected, I think, from the care that was taken in the experiment in putting the fish into fresh water and keeping a constant supply circulating, it cannot be compared to what would happen in an ordinary steam trawler.

3680. And, of course, the "Garland" had only a small trawl?—Yes, of 25 feet, and it was going under three knots.

3681. And most of your hauls were short hauls, were they not?—Yes.

Commander Bethell.

3682. But up to five hours you said, did you not?—About five hours; it may have been longer.

Chairman.

3683. What was the result of your experiments with regard to line-caught fish?—I only tried one experiment recently, in view of this Committee sitting. Seventy fish were caught and put into a vat in the same way, and out of the 70 caught 17 died. The line was down on an

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Chairman—continued.

average about half-an-hour, or a little over half-an-hour; it was a very large proportion.

3684. What length of line was that?—Two lengths, 1200 hooks.

3685. I suppose you began hauling the line directly you got it down?—Fifteen minutes, I think, was allowed to elapse, and then we hauled up the same end.

3686. In the usual way?—Yes.

3687. But, as a matter of fact, is it not the case that taking the ordinary long line shot by fishermen off the Scotch coast, a very large proportion of the fish are dead when they come up?—Yes. Of course a great deal depends upon the length of time that the line is down, and I think the average length is about four or five hours.

3688. Is it not your experience that the number that come up dead is almost remarkable?—In line fish?

3689. Yes?—Yes, it is. Then, apart from that, there is the question of the removal of the hook, because the fish is very much injured. In this experiment, I may say, I got a fisherman to take the fish off the hooks, so that they might be taken off in exactly the customary way.

3690. Then, on the whole, with regard to these proposals, would it be a fair representation of your views to say that you think these restrictions would be undesirable, and that really the only practical effect of them would be to diminish the food supply of the country?—Yes; that applies to fishing in the open sea.

3691. And that its effect also might be to raise the price of other fish?—I think there is no doubt about that. If a size limit, for instance, of 12 inches was applied to plaice, that would cut off a very great quantity of plaice from the market, and I think the price of other fish would be raised proportionately.

3692. With regard to the question of close seasons, do you think that it would be possible to establish close seasons, or to limit the portions of the North Sea which should not be fished in certain seasons?—Do you mean to fix areas and prohibit fishing in those areas?

3693. I mean two things, one to create an entire close season for, say, a month in the year, as has been suggested to us, or to take certain areas of the sea and prohibit them?—I think the best course would be to take a certain area, because, so far as I have studied the trawling experiments of the "Garland," the falling off in the territorial waters of the flat fish is due largely to the trawlers trawling on the spawning ground outside. I think, therefore, if the territorial limit was extended to nine or twelve miles you would have certainly a number of spawning grounds brought under your control; and the further advantage of extending the territorial limit or dealing with the question close to the shore would be this: you would have the area under far better control than you could if an area was selected, say, in the middle of the North Sea. It would be under better supervision, because it is nearer shore and more under the eyes of the authorities.

3694. Do I understand that your suggestion rather would be that by an international agreement the territorial limit should be extended from nine to twelve miles?—Yes.

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Chairman—continued.

3695. And then that each particular country should be left to make regulations with regard to that particular area that came within its own territory?—Yes; that would be the ideal arrangement; to have an extension of territorial waters, and to allow each State to exercise regulations which suited its own fisheries best. I will hand you a chart showing you the territorial limit.

3696. Is this a chart of the east coast of Scotland?—Yes; it is a rough diagram, showing the territorial waters and the waters closed by bye-law, and the "Garland's" trawling stations, and so forth.

3697. Is the whole of the Moray Firth closed now?—Yes, the whole of it; but that was only done last November, and there has not been time to prove any results from it.

3698. Have you had any experiences of the results of the closure of the territorial waters in Scotland to steam trawlers?—Yes.

3699. Could you tell us what they are?—The experiments were begun in 1886, and have gone on up to the present time. The stations selected in the territorial waters and just beyond are examined periodically, and a very careful record is kept of the contents of the trawl, the number of the different kinds of fish, their length, and so forth. The averages showing the number of fish bring out generally this fact, that in the closed areas there has been a great falling off in flat fish, in spite of the prohibition of beam trawling within the area, and also of round fish. I have tables here, giving the whole of the returns since 1886. (*The Table was handed in.*)

3700. To what do you attribute that falling off?—It seems to me very unreasonable to suppose that, as some people think, beam trawling does any good to the fishing grounds, and it seems to me the only conclusion from these figures is that the trawlers have been driven out from the territorial waters; they have gone beyond the territorial waters, where the spawning grounds are situated, and fished there in greater numbers than they did previously. Therefore, I think the supply of the floating ova and young fish to the territorial waters has diminished very much. I can see no other explanation.

3701. It has not arisen, as I think Professor McIntosh somewhat suggested, from the greater amount of fishing by line fishermen within the territorial waters?—I scarcely think it has arisen from that, because I can give you here figures showing the total trips and shots of fishing boats in the territorial waters from the Firth of Forth to near Aberdeen. In 1888 there were 43,000 shots, and the average quantity of fish caught per shot was 2.5 cwts. In 1891 there were 37,928 shots, and the average quantity per shot was 2.4 cwts., so that there were really fewer shots in 1891 than in 1888, and the average catch per shot was a little less, and that quite agrees, I think, with the general results of the "Garland's" experiments.

3702. But on general grounds would your view be that it is sound policy to prohibit trawling in territorial waters, or not?—I think it is sound policy.

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3703. You

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3703. You would not suggest any relaxation of that prohibition in Scotland, would you?—I would allow the Board to have power, as they now have, to relax it if they thought it proper or necessary at any particular place.

3704. Have you been carrying on very careful examinations as to the conditions in which the fish are when brought on board the "Garland"?—Yes, in regard to the maturity, food; and, in fact, everything that we could ascertain from the fish brought on board we have tried to ascertain.

3705. Do you think your efforts have been crowned with success, and are such as to encourage you to go on?—I certainly think so. I know that the other fishery authorities in Europe regard our work with very great interest. I have frequent correspondence with the authorities abroad, and I know they think a very great deal of the experiments, and they are now doing exactly the same thing. Exactly the same scheme as was adopted and used on the "Garland" has been adopted abroad; also by some of the English districts, and also in Ireland in the survey of the west coast fishing grounds.

3706. Have you found any hindrance to the success of your experiments in any way from want of sufficient material and your boats not being big enough, and so forth?—A very great disadvantage, of course, is the small size of the "Garland." We cannot, for instance, send the "Garland" far out at the very time it should go (namely, the spawning season), and we have not got information just now as to how far the spawning beds or grounds extend, simply because the vessel is so small that we could not send it out without very great risk.

Commander Bethell.

3707. What tonnage is she?—She is 36 tons registered, and about 90 feet long.

3708. The whole deck?—Yes; she is very narrow; she was a yacht previously.

Chairman.

3709. What sort of a vessel do you consider would be most suitable for the purposes of your experiments?—I think if we had a steamer that could go at a moderately quick speed, and was a seaworthy boat, the work could be greatly extended.

3710. Such a boat as one of the better class of steam trawlers, for instance?—Yes, with a slight modification, perhaps, for the convenience of the scientific work.

3711. With special cabins, and so forth?—Yes; I think the expenditure of a few hundred pounds more on a boat of that description would make it perfectly satisfactory.

3712. Then you at any rate are strongly in favour, are you, of continuing these experiments?—Yes.

3713. Do you believe great good is to be gained by continuing them?—Yes, I do.

3714. And from extending them?—Yes. One very important region to carry on the experiments in, for instance, is the Moray Firth. The Board, by bye-law, has closed the whole of the Moray Firth, which contains a very important spawning ground, Smith Bank; but our vessel is so small that we cannot send it up to Smith

Chairman—continued.

Bank in the spring, which is the spawning time, and therefore, of course, we cannot derive the same benefit from these experiments as from those in the Firth of Forth and St. Andrews Bay.

3715. I should like to ask you a few questions as to the feasibility in your opinion of established hatcheries?—I believe the establishment of hatcheries is very important, and likely to be even more important in the fishery regulations of the future.

3716. Have you any experience with regard to hatcheries at present?—Yes; I went to Norway and visited the hatchery there, and subsequently the Fishery Board established a hatchery at Dunbar. I must say that it has not been in working order yet; but I certainly think that, if hatcheries were carried out on a proper scale, they would form a very important supplementary means of adding to the fish supply. I might point out this, too, that this hatchery is at the very place where we can test the result of fish hatching on the fish supply, because the young fish would be put into the Firth of Forth and St. Andrews Bay, and, as I have shown from this table and the investigations we have made, we know more about the waters there than is known about the waters at any other part of the coast, in fact, I might say, of the world; and Professor McIntosh has already hatched for scientific purposes almost all the food fishes at St Andrews Marine Laboratory.

3717. At what sort of size would you propose to turn in the small fish?—That is a very difficult thing to decide. I know that what they do just now is to turn in the fish immediately they are hatched. They say, of course, that by doing that they can hatch far greater numbers. But I certainly think if the fish could be kept in large enclosures until the absorption of the yolk sac, at least, it would do a great deal of good.

3718. Is it practicable to so enclose portions of the sea for this purpose, do you think?—There are two creeks at Dunbar very suitable.

3719. But you have not tried them have you?—We have not been able to get the money to enclose them. I have here a chart showing the ground where the hatchery is built, and this shows the creeks.

3720. How would you propose to enclose them (*The Witness explained the Chart to the Committee*)?—It would require a very small amount of expenditure compared to the value of the experiment.

3721. How much would it cost?—1,500*l*.

3722. What area would you enclose in that way?—I have here a report from the engineers who drew up the plan, which I will read: "We have examined and surveyed the natural sea creeks at Dunbar in connection with the hatchery and tank at present in course of construction there, and beg to report that if these creeks were enclosed by concrete walls as proposed, and for which we prepared plans, the total superficial area within those walls would be 13,545 square feet at high water of ordinary spring tides. The area of the west creek is about 5,800 square feet, and that of the east creek about 7,655 square feet; when filled by ordinary spring tides these creeks would contain about 560,000 gallons of water at high water, and would have a maximum depth of 14 feet

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14 feet in the west creek, and 16 feet in the east creek."

3723. But still, you cannot give us information of any experiments of this sort which have been carried into effect and have succeeded, can you?—I may say that quite recently, in fact yesterday, I had a conversation with Captain Dannevig, who is the Director of the Norwegian Sea Fish Hatchery, and I asked him about that very point, and he says that they are now getting young cod of a certain size which the fishermen and public attribute to his hatchery. So that while at first the fishermen viewed fish, hatching rather with scorn, they now look upon it as quite a possible and feasible thing. His opinion certainly is that they are increasing the fish supply, but it is difficult to get proof until we get statistics of the fish in different years from the same area, as could be done in the Firth of Forth.

3724. What would be the fish you would propose, principally, to hatch in any Scotch hatcheries?—I think the fish to hatch, to start with, would be the valuable flat fish; then they could be put into St. Andrews Bay, or the Firth of Forth, from which beam trawling is excluded, and in the course of a few years, by carrying on experiments, we would be able to ascertain whether the proportion of these fish increases or not: therefore we should test, before a very large expenditure was undertaken by the Government, whether this mode of increasing the fish supply would be likely to succeed, and to what extent. I may mention, in connection with fish-hatching, a figure I got from Captain Dannevig. I asked him the cost of hatching cod, and he told me the cost of hatching 10,000 is a *1d.*; they can produce 10,000 young cod for a *1d.*

3725. But that is only in this very early stage, is it not?—Yes.

3726. And it would cost a great deal more to turn them out in such a condition, when they can take care of themselves, would it not?—No, not with large enclosures; but the protection of the egg alone is a very important thing, especially in connection with flat fish.

3727. The hatching of the eggs, I understand, is a very simple matter, and about that there is no difficulty?—No, there is very little difficulty if you have good water of proper temperature, and of proper specific gravity.

3728. But you can practically command that, cannot you?—Yes.

3729. Is there anything else you wish to bring before us which I have not asked you questions upon?—I do not think so.

Mr. Heneage.

3730. From what you have told us, you are of opinion, I gather, are you not, that the greater part of the small fish that are caught will die, and therefore it is no use attempting to stop their being sold?—Yes.

3731. Do you not think that if there was a prohibition against the sale of fish the fishermen, for their own sakes, would be deterred from going to those places where they would catch the small fish?—Yes, there is something in that, but then, I think, that virtually comes to this, that you indirectly close a certain area to fishing, and I think it would be far better if the area were closed

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Mr. Heneage—continued.

directly, and the fishing stopped there. I am aware, of course, that might be difficult, because this is an international question; but it seems to me perhaps a little selfish of the English trawlers to want to interfere with the fisheries all round the coast in this very important way, simply to prevent fishing on this ground on the other side of the North Sea, when they have tried by voluntary agreement to abstain from fishing there, and failed.

3732. Would not, indirectly, the extension of territorial waters have the same effect?—It might have the same effect; but the great advantage of the extension of territorial waters would be this: the three-mile limit is really of no practical good from a fishery point of view, and if the territorial limit was extended to 12 miles, then each of the different States in the North Sea would have the power to regulate their fisheries as they might think best.

3733. But taking the international law as it now stands, would not the extension of the territorial waters mean that no foreign vessel could come within those waters?—Of course, if there was an international agreement. Do you mean a fishing vessel?

3734. What I mean is this: if the territorial waters were extended to nine or ten miles instead of three, then no foreign vessel could come within those nine or ten miles; is not that so?—To fish, yes. But I must say this: the territorial limit has been fixed for the North Sea by treaty between the different Powers, and if you alter this territorial limit you must do it in a similar way, by treaty, and if the different Powers in the North Sea agreed to extend the limit to 12 miles, then, of course, they would have the control over their own fishing in that area. For instance, a Dutch vessel coming here would not be allowed to fish if it was in contravention of our bye-laws.

3735. This is not a question of bye-law. I follow your answer perfectly, but would it not more seriously affect the British fishing industry than that of any other country; if we were to be precluded by a 10-mile territorial limit in the North Sea, would it not affect our vessels on foreign coasts more than it would other vessels on our coasts?—I think it would be the very opposite, for this reason: the territorial waters to be extended on the other side are the very waters you want to abstain from fishing in by this indirect method of dealing with immature fish. I do not know of any case on the other side where it would not be of advantage for the trawlers to abstain from fishing.

3736. Then I suppose you are aware that if the territorial waters were extended any vessels which were guilty, or supposed to be guilty, of any breach of international law, would have to be tried by the law of the country owning those territorial waters, according to the procedure of that country; and do you think that British fishermen would care for that?—I scarcely think that is a great difficulty, because the extension of the territorial waters internationally would mean, of course, an international agreement, and a clause introduced to make it clear as to what penalties might be enforced or what measures taken to deal with any one fishing in territorial waters would obviate any difficulty.

3737. You want to make them territorial waters; you want to empower the Fishery Board,

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Mr. Heneage—continued.

Board, or whatever the power may be, to make bye-laws within those waters; those bye-laws will have to be enforced in the case of England, or in the case of Germany, by the law as it is understood in those countries, and by the procedure of the law understood in those countries, and not by any international law?—By the procedure of the law.

3738. Yes?—I do not know enough about the procedure of the law to answer the question; but I should say, if there were special difficulties they might be settled by the different Powers when they were making the treaty. They would be able to settle the most convenient procedure, penalties and so forth.

3739. Let me give you an instance to show what I mean. If a French vessel or a German vessel is caught doing anything in contravention of the treaties within English waters, they are towed into an English port, they are allowed freedom and they are allowed to sell their fish and buy provisions, and if they are found guilty by the local magistrates they are fined and set free; is that not the case?—I believe it is.

3740. But if a vessel is caught in the German territorial waters it is towed into harbour, the trawling gear is confiscated at once, and the skipper is taken to prison to await trial by the law of that country; and is it not the fact that there have been three cases in the last few years, in which they have had to lie in prison for a month or six weeks before they are brought to trial?—I believe so.

3741. Would not that extension of the territorial waters be very much opposed by fishermen, because they would be brought under the local law instead of the international law?—I think it would be a very convenient way of raising the point. There is a difference of procedure apparently on the two sides of the North Sea now in regard to this question, and would it not be a convenient time to raise any point of that description as to procedure, and so forth, if this matter of extending the territorial limits were raised.

3742. How would it be possible to alter the legal procedure of any countries to meet the views of any other country for a particular case?—In old times there was the Admiralty Court, which was held on the strand (the sea coast), simply for the reason that it was a convenient place to hold it and settle the differences between fishermen and merchants and vessels without undue delay. I certainly think, if we are going to come to an international agreement in regard to territorial limits in the North Sea, there will not be any difficulty in arranging for special courts or a special mode of procedure.

Mr. Buchanan.

3743. You would prefer, I understand, the extension of the territorial limit to 10 miles as the most effective suggestion you have to make?—Yes, I think so; or if great difficulty is likely to be met with in getting an international arrangement (which I can quite understand) then power might be given to the fishery authorities on this side to deal with the fisheries within a certain distance of the coast.

3744. That is to say, we could empower the

Mr. Buchanan—continued.

fishery authorities in this country for fishery purposes to do certain things?—Yes.

3745. And in principle that has been done by the Scotch Fishery Board to close Moray Firth, has it not?—Yes.

3746. That is to say, it is only in operation for the time, and so far, I suppose, no difficulties have arisen in respect of that. There has been no attempt on the part of the trawlers to put themselves under foreign flags?—No. I think there would be a great deal of difficulty in doing that, because the registration of boats abroad is a complicated thing.

3747. Has there been any threatening about it?—Yes; but it was never carried out.

3748. If any other extension were made of a long stretch of British or Irish coasts do you anticipate that any great practical difficulty will be experienced in carrying it out, as far as your experience goes?—No. Of course, the larger the area you close against your own fishermen the more inducement do you offer to the foreign trawler to come and fish.

3749. Of course it always entails a greater necessity for sea police, does it not?—It does.

3750. Then, with regard to the question about the hatcheries, do you look forward to creating more than one on the Scotch coast; what is your idea about that?—I think before large expenditure is undertaken it would be very desirable to test whether this is a mode of increasing the fish supply that might be trusted or not, and if this hatchery at Dunbar was in working order and allowed to go on for a few years, then, I think, we would be able to test from our knowledge of the fishing grounds in the Firth of Forth and St. Andrews Bay whether it was likely to do good or not, and justify further expenditure.

3751. You would rather get one started as an experiment, would you not?—I think so.

3752. I did not quite understand what you said about the Norwegian hatchery; what numbers of fish have they sent out there?—The number they sent out this year was 240,000,000.

3753. And the average cost of that was about a penny per 10,000?—A penny per 10,000.

3754. With regard to the limitation in size, and limiting the landing and sale of undersized fish, you are opposed to that, I understand, both on scientific and economic grounds?—I am; and also, I may say, on the ground of the difficulty of carrying it out. I think it is a very simple matter, at all events the simplest mode, to treat an area and to have, say, a gunboat coming into that area occasionally; you can regulate that, and I think you would really effectively control the fishing there, but it would be a very different thing if you are dealing with this question of immature fish at the villages round about the coasts, and the different markets where one would have to examine those fish, and measure them, and so on. I think such a law could scarcely be carried out.

3755. And it would not, as far as you can anticipate, very largely influence the supply of fish in the sea?—As far as trawling is concerned I think not.

3756. And at the same time it would cut away

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[Continued.]

Mr. Buchanan—continued.

away a very valuable source of food to the community, would it not?—Just so.

Commander Bethell.

3757. Are the scientific experiments under the Scotch Fishery Board carried on in consultation in any way with the Marine Biological Society at Plymouth, and the small laboratory at Grimsby?—The laboratory at Grimsby is now under the control of the Plymouth people, and we have frequent correspondence with them. Dr. Fowler and myself and the naturalists are in correspondence.

3758. Do you try and make some correspondence in the class of work you are carrying on?—As far as possible, but it is a very difficult thing to do that in all cases.

3759. Do you personally mix much among the ordinary fishermen, or do you see much of the common fishermen in the course of your work?—Not to a very great extent. I have taken the opportunity, of course, of making myself acquainted with the different kinds of fishing by going out in the boats, and so forth, but that was only to understand the methods and the application of the scientific work.

3760. Have you remarked any desire on the part of the ordinary fishermen to acquire some little scientific knowledge on the subject?—I cannot say I have, but certainly I think it would be very desirable. Take the question of the floating of fish eggs, for instance; a great many fishermen, in fact the majority, still do not believe that fish eggs float; and this allegation was, of course, one of the great objections against trawling, the destruction of spawn.

3761. Are the Scotch county councils doing anything in the way of technical education to assist?—Yes, some of them grant a certain sum for the purpose of instruction and lectures.

3762. I suppose it is not very easy, is it, to get a person to lecture on a subject of that sort?—There are not many competent to lecture on such subjects.

3763. Do you do it?—No, I do not.

Major Jones.

3764. You said that for the purposes of your scientific investigations and for police purposes it would be desirable to have a boat a modification of the present trawler, did you not?—Yes. Of course, the better boat still, if we had not to consider the question of cost, would be such a steamer as the Northern Lighthouse Board possess.

3765. I was just going to ask you if you would let us know what you would recommend in the way of beam, length, draught of water, tonnage, model, and so forth?—I scarcely could answer that. I do not think I could offhand give you particulars.

3766. You have no particular type of ship that you would recommend to the Committee in your mind, have you?—No, except that it should be a swift seaworthy boat capable of going out to the fishing ground where the trawlers work, practically in all weathers.

3767. It has been stated here by some of the witnesses, or by at least one witness, that an ordinary sole of 9 inches would be equal in weight to a 0.93.

Major Jones—continued.

sole of 12 inches in another part of the coast; is that so, in your opinion?—I can quite understand that the relation between the length of a fish and its weight would differ on different parts of the coast, because they do differ at different periods of growth, but I should be surprised to find that difference.

3768. If that is so, it should influence to some extent, should it not, the limits put upon the length at which fish are caught?—Yes.

3769. Have you anything to recommend having for its object the saving of life of the immature fish thrown overboard?—The only possibility, I think, of doing good in that respect would be with regard to the inshore shrimp trawling. The fish, undoubtedly, there almost in every case come up alive, and I myself in the Solway, on board the shrimping boats, to try the effect of exposure to the sun, used to put these little fish on the side of the boat for a time and then put them into the water, and the general conclusion was that fish lived taken in shrimping trawls. The trawl is down a very short time in shallow water, and on clean ground, and is being drawn through the water at a very slow rate.

3770. If the trawl is down five or six hours, what percentage of the immature fish would live if thrown overboard?—It is very difficult to say; it is not so much the number of fish that are dead when the trawl is drawn on board. One has to consider the whole question of the operations on board a trawler. If there were regulations with regard to immature fish on board a trawler, the men would have to separate the fish, measure them, and so forth, under very difficult conditions, sometimes of weather, sometimes of darkness, and so on. And it would be putting the administration of the law into the hands of the very people who might break it. The whole question would be in the hands of the trawlers, and I think it is too much to expect that these men, in the early morning, in bad weather and so on, would settle down to separate out the fish, and measure them, and put them back into the water; they would simply use a shovel and throw them overboard.

3771. I did not quite catch your recommendation in respect of the territorial waters. Do I understand you to recommend that there should be a consular convention between the different powers setting the limit of the territorial waters, and providing generally for the procedure and penalty, and completing the arrangements?—Just so. My idea is this: for the first time in the history of fisheries you have got trustworthy evidence that there has been over-fishing, that the interference of man with a very great source of food supply is undoubted, and that there is an injurious effect by this interference. Therefore, in that case, I think the different fishery states in the North Sea (who are all concerned) might be quite willing to consider the question of extending the territorial waters in order to give them more power of control over the fisheries round the coast. I know, as a matter of fact, that some of the fishery authorities of those countries would be in favour of it.

3772. Would you recommend some popular scientific lectures to the fishermen at the centres of fishing throughout the country?—Yes, I think

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Major Jones—continued.

think it would be very desirable in every way to give them knowledge as accurate as possible on everything that concerns the habits, food, life-history, and so on, of the fishes.

3773. How would you pay the lecturer?—Some of the county councils are now paying the lecturers a small sum. If local fishery districts were formed in Scotland by a combination of the counties, each of the counties or county councils might pay a sum annually for purposes like that: or it might be made part of a general scheme of technical education.

Mr. Kearley.

3774. Do I understand that you are against these suggested limitations of size?—Yes, unless the size was placed very small.

3775. Have you a leaning towards the closure of particular areas that are known to contain large quantities of immature fish?—Yes, but it is very difficult to define them.

3776. It is generally conceded, is it not, that the marketableness of fish, having consideration to the size, varies according to the waters in which they are caught; for instance, in the West of England, a 9-inch sole, we will say, is a more marketable article than a fish of the same size caught in colder waters, is it not?—I could not answer from my own observation or knowledge about that, but I should imagine that it is quite likely.

3777. We have had that given in evidence, and that the plumpness of the fish varies according to the temperature of the water, becoming larger in the warmer districts?—Just so.

Mr. Robert Price.

3778. Then you think, do you, that a 12-mile territorial limit would practically protect the nurseries of the flat fish round our coasts?—I would not say of all flat fish, because the nurseries of some of the flat fish are not limited in that way. You could not define the nurseries very well.

3779. For plaice and soles, say?—For plaice, but not in the case of soles.

3780. That is the case, I understand, with regard to our own coast, but when you get over to the Dutch coast, the nurseries of the flat fish, plaice particularly, extend out 40 or 50 miles, do they not?—I believe for a small part they do.

3781. So that the 12 miles territorial limit would not be so great a help on that side as it would be here, would it?—Of course it would not provide the same security in regard to immature fish, but it is questionable, if fishing was prohibited on that ground on the eastern side of the North Sea, whether it would have much effect, or any effect, on the fishing on this side, because it is several hundred miles away, and I do not think anything has been shown with regard to the migration of fish to prove that they would come over to this side. I imagine the spawning grounds for that area would lie south of the Great Fisher Bank, and that is off the coast. I do not think there is any great communication between the fish on the two sides.

Dr. Clark.

3782. As to the herring fishery, I think you said no change was required?—Yes.

Dr. Clark—continued.

3783. Then how do you account for the agitation among the fishermen to have a close time at different parts of the coast, and to begin with certain fisheries at special times?—I think the fishermen want regulations for their own convenience very largely. Then regulations may be demanded for commercial considerations, to keep the small immature fish out of the market and so forth. I do not very strongly say that regulations of that kind should not be made, in fact I should not like to say that, but I would say that there are no statistics or scientific investigations justifying a close time of that description.

3784. But have you had no investigations at all to show that it is either needed, or that there is no need for it?—There is this incontestable fact, that the herring fishery has rather gone up than gone down. It is totally a different question from the question of flat fish. In the case of flat fish you have an increase in the means of capture, and a decrease in the quantity of fish caught. In the case of the herring fishing you cannot show any relation of that description, and therefore, looking to the evil effects of legislation in the past—

3785. In regard to the herring fisheries?—Yes.

3786. What is that?—For instance, the interfering with the seine trawling and the making of close times 30 or 40 years ago on the west coast, created a terrible outcry, and did a very great deal of harm to the fishermen there. It is all described in the old reports of the Fishery Board. I think the best way of dealing with the question of close time is to allow the fishermen to come to a voluntary arrangement. The fishermen have associations at different parts of the coast now, and if a certain proportion of the fishermen voted in favour of a close time, then they might have a close time without any Acts of Parliament at all.

3787. Then you think the commercial reason is one that weighs with them, because a lot of the smaller fish are caught, and is spoiling their trade?—Yes; undoubtedly.

3788. Then you would agree if the fishermen can come to terms amongst themselves as to the best period, they should not be allowed to fish before the fish are more matured. If the fishermen do agree among themselves as to what should be the time for beginning, say the Stornoway fishing, or say the Shetland fishing, or the Fraserburgh fishing, you would prevent any one or two selfish individuals from going there before, would you not?—There is always a difficulty, of course. If there was only one or two, I think it would be quite easy, but suppose you pass a bye-law on the two-thirds or three-fourths majority of the fishermen.

3789. Or if this Bill passes according to the desire of the Local Fishery Committee?—If that was done, supposing the bye-law was passed at the desire of three-fourths of the fishermen, and supposing they changed their mind about it, and two years after that you had exactly half, 50 per cent. wanting the close time done away with, and 50 per cent. wanting the close time continued, how would you deal with it? You could not get a majority on either side.

3790. The people in the neighbourhood and the fisheries all desire it. I understand that just now

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Dr. Clark—continued.

now all round the Scotch coast nine-tenths of the fishermen, at any rate, are desirous of having a close time for the flat fishing?—I should not think a majority like that wanted it. I know, as a matter of fact, that they differ at different parts of the coast, and even at neighbouring parts of the coast, as to the desirability of a close time, or the time that should be selected. There is a very great deal of disagreement, and that is why, I think, there would be a difficulty if you put the power into the hands of the Committees. If a majority of three-fourths of the fishermen favoured a close time, it would require the same majority to alter it, and then there might be the difficulty that a year or two afterwards they might be divided in opinion, and it could not be altered.

3791. You mean, if they are wrong now, and the basis on which they require it now is wrong, they would require to change it; are you assuming that during the year the migratory condition of the fish might change?—No; I am assuming the opinions of the fishermen as to the advisability of a close time might change; but if the bye-law had to be renewed yearly this difficulty would be lessened.

3792. You said there is a great decrease in the fish caught; I suppose that is limited only to the north of Scotland?—Yes, and St. Andrews Bay.

3793. A decrease in number, or a decrease in size?—I have not gone into that question. I might do so later, because we have the sizes of the fish during the six years. But I have not gone into that question. It is a perfectly natural thing to suppose, of course, that there is a decrease in

Dr. Clark—continued.

size, because it is always the large fish that are fished out first. Reproduction begins at a certain size, say at six inches, and you would have the same fish, say, at 18 inches still reproducing. That means three years, say, to attain sexual maturity, and then, perhaps, seven, or eight, or ten years of sexual reproductive life. Then, of course, when a ground is over-fished, it is natural to suppose that a very few of the fish live long enough to attain that size; they get caught.

3794. Your explanation with regard to St. Andrews Bay, I believe, is that the hatching ground is outside the three-mile limit?—No; I would not say that definitely. The breeding ground, where the fish cast their spawn in the water, is certainly beyond St. Andrews Bay, but then, of course, the eggs float, and are carried about one way and the other by currents and tides, and they may be either hatched within the territorial waters or outside. The actual hatching may take place outside the territorial waters or inside.

3795. How long have you had St. Andrews Bay now shut?—Since April 1886.

3796. And the catch before then was greater than it is now, was it?—I cannot say about the catch before.

3797. Is it not the fact that in St. Andrews Bay and in the Firth of Forth there has been a very great decrease before it was protected?—That is my opinion.

Chairman.

3798. Is there anything you would like to add to your evidence?—No, I do not think there is anything I wish to add.

Tuesday, 13th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Heneage.
Major Jones.

Mr. Mallock.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Sir Albert Rollit.

MR. MARJORIBANKS, IN THE CHAIR.

Professor E. RAY LANKESTER, called ; and Examined.

Chairman.

3799. You are President of the Marine Biological Association, I believe ?—Yes.

3800. Have you given great attention to these fishery questions for a long time ?—The association has ; and I have taken a great deal of interest in it.

3801. You have, with a view to giving evidence before this Committee, given a good deal of time, have you not, to the preparation of that evidence ?—Yes.

3802. Will you, in the first place, tell us something about the history of your association ?—The association rose out of the great Fisheries Exhibition, and the need which then became apparent of investigations in connection with fisheries in this country. We were all very much impressed by the American exhibits, and the work that had been done by the American Fishery Commission. We found it came out through that exhibition that there was really nothing at that time at all corresponding to the work which was done in America being done in the United Kingdom ; at that time, the Scotch Fishery Board had not got to work upon such investigations. Some of us determined to form an association and to invite subscriptions for the purpose of establishing a laboratory, and employing naturalists to make investigations connected with the fisheries as to the life, history of the fishes, the time of breeding their young, their condition, where they pass their young growing period, their food, and such other matters, with the view of giving the information which everybody declared was absolutely necessary, and was absolutely wanting at the time that exhibition was held. You, Sir, will remember the Trawling Commission, which emphasised these facts and these needs very much, and recommended that our association should receive aid in its projects from the Government. We collected a sum of about 15,000*l.*, of which 5,000*l.* was given by Her Majesty's Government ; and we have had an income of 500*l.* a year from the Treasury, and about another 500*l.* a year from different public institutions. For instance, the Fishmongers' Company has subscribed to our funds, and various individuals have subscribed.

3803. Your income is about 1,000*l.* a year, is

Chairman—continued.

it not ?—Yes, until lately, when we have had an increased income from the Treasury ; we have had 1,000*l.* a year for three years.

3804. Then the last three years you have had 1,500*l.* a year ?—Yes.

3805. Have you found that sufficient ?—By no means, to carry out the serious investigation which is needed.

3806. How have you, roughly, spent that money : how has it been distributed ?—I would say first of all that no officer of the association, excepting the naturalists actually employed at Plymouth, receives any salary. The secretary and the treasurer are entirely honorary officers, and the whole place is managed without touching that income at all. We have three officers who are naturalists, who are employed, viz, the director of the Plymouth laboratory, Mr. Cunningham and Mr. Garstang. We have been able to employ also Mr. Holt in the North Sea during the last two years, through the special gift of Mr. Thomasson, of Bolton, for that purpose. The laboratory itself, and the library, and the printing of our journal, and so on, take up the rest of the income.

3807. What conveniences have you for conducting your experiments at sea in the way of boats and other apparatus ?—That is the point in which we have found the greatest difficulty. We have never had a sufficient sum in hand, or a sufficient income to maintain a really proper sea-going vessel. We have occasionally hired steam vessels ; but all we are able to keep for constant work is a small steam launch and sailing boats ; and when we have pushed our investigations into the North Sea we have had to use the good offices of the trawlers and trawl owners in those regions. We have not had an independent sea-going steamship, which we consider extremely important and extremely desirable.

3808. If you had such a vessel could you keep it constantly employed ?—I think we could.

3809. Have you formed any opinion as to what the primary capital cost of such a vessel would be, and what the annual cost of maintenance of such a vessel would be ?—Yes. I imagine that from 5,000*l.* to 6,000*l.* would be the primary cost of such a vessel, and that she would

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Professor LANKESTER.

[Continued.]

Chairman—continued.

would cost us about 1,000*l.* a year to keep in constant commission, allowing for repairs, and so on.

3810. Of course, that would mean a certain saving on the present expenditure of the association, would it not?—No doubt; I would point out that that very important body in Scotland, the Scotch Fishery Board, has had for some years such a vessel provided for its purposes by the Government.

3811. Hardly such a vessel as you describe, is it?—The “Garland” is a largish sea-going boat, perhaps not ideal, but at any rate I think something like 3,000*l.* was granted for her, and 1,200*l.* a year for her work.

3812. I suppose your idea would be to have a vessel similar to the best class of steam trawler probably?—Yes.

3813. Would that be the sort of vessel you would wish?—Yes; I may say that the United States Fish Commissioner has two vessels at his service, the “Fish Hawk” of 450 tons, and the “Albatross” of 1,000 tons, and the Imperial Government have put on their estimates for the last three years the following sums for this Fishery Commission, in 1889–90, 48,780*l.*, in 1890–91, 57,780*l.*, and in 1891–92, 67,000*l.*

3814. Do you think that the United States have received anything like an adequate result from that large annual expenditure?—Putting it briefly, I should say yes.

3815. Tell us how?—That is another matter; it is very difficult to go into detail.

3816. If you say it has received an adequate result, I think we have a right to ask you in what way that result has been obtained?—I think these vessels have been actively employed, and have made investigations over a large area of coast. When you say “adequate result,” I say “yes,” they have learned a great deal about their fisheries, and the necessary investigations have been made, but I do not say that they have had a commercial return for their 67,000*l.*

3817. But I am afraid you would have to show in this country, at any rate, to the Treasury, that there would be such a commercial return before either the House of Commons or the Treasury would sanction the twentieth part of such an expenditure as you hint at?—Of course, to show that knowledge about a particular subject brings a definite return is extremely difficult, because you may say a definite return might be obtained without the knowledge.

3818. Do you think a Committee of the House of Commons would be justified in recommending a large expenditure, or asking the Treasury to make a large expenditure, unless it could be shown that there was going to be really an adequate commercial result accruing to the country from that expenditure?—No; but I think the question may be put too brutally, if I may use the word, as to the actual commercial return or an increase of so many pounds a year. We are all agreed, however, that a proper survey of the coasts of the country, and a proper study of the habits and movements of sea fishes within the areas which are used by British fishermen, would lead to valuable commercial results, that is to say, would guide the operations of the fishermen, and guide the proper

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Chairman—continued.

employment of capital. They now have to proceed blindly, and they are often, to a large extent, in total ignorance on many important points.

3819. Do you think that the present statistics which are provided by the Board of Trade are adequate or trustworthy?—I should like to point out to the Committee that the statistics at present furnished by the Board of Trade, have very little value in relation to fishery questions. At one time, I think up to about eight years ago, the only fishery statistics which existed at all were those of the carriage of fish by railway, which, of course, had very little significance as to what was taken on certain grounds, or who caught them. At the present time the returns are from various fishing ports all over the kingdom, both England, Scotland, and Ireland, merely giving the tonnage or hundred-weights of fish landed and their value, that is to say, there is no attempt made to ascertain (and I think it might be ascertained) where the fish came from, what ground they were caught on, or who lands them. So that neither with relation to the employment of population, nor as to the value of particular fishing grounds are these statistics of any significance; for instance, fish landed at Milford, by a Scotch crew, caught in Irish waters, passes as fish landed in England and apparently caught from English fisheries. What we should like to know in every case is the *locale*, the habitat of the crew of the boat, and where they caught their fish.

3820. As a practical question do you think it would be possible to lay such a duty on the crew of every fishing boat?—I think it would be quite feasible.

3821. Do you not think the British fishermen would revolt at having to supply such details?—I believe these returns, to a large extent, are made by the coastguard officers, and they would practically know in most cases, or would have very little difficulty in ascertaining where a particular boat had come from, and sending the information in, in their return.

3822. Do you mean to say you would suggest it would be possible for the coastguard to take an accurate return of every catch of fish landed by every boat, big or small, round the whole coast of Great Britain?—Such returns as we have here are done through harbours, and every boat which comes into a harbour of course is known and examined. The whole operation of the harbour master and so on comes in, and there would be no difficulty. There might be a little effort.

3823. Any friction?—No, I do not mean friction; I mean a little manual labour, and a little time occupied in making the statement, but it could be stated by every boat, what was its port, that is to say, the habitat of its crew, and where it had caught its fish. For instance, a great many fish are now landed from the banks off Iceland, but there is no indication of that in these returns. We do not know whether the fish landed at Grimsby comes from the nearer grounds of the North Sea, or from the Iceland banks. Again, some of the fishing-boats have even gone so far as the coast of Portugal; and very often soles have been brought from that region, and these soles are simply mixed up with other

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Chairman—continued.

soles and landed at these ports with no indication as to where they came from. It seems to me of the first interest in any criticism of what we are doing, whether we are improving fisheries, or whether they are deteriorating, that some discrimination as to where the fish come from should be exercised.

3824. I quite admit the desirability of it, but it seems to me that to carry it into practice would be difficult; have you formed any opinion from the materials which are within your reach, as to whether the fisheries generally are deteriorating?—I should say that my impression on that matter would only be of a general character, and that the naturalists whom we have employed have more intimate and critical knowledge of these details. But my impression is that whilst the inshore fishery has suffered from over fishing and trawling, there is not any difficulty of that kind with regard to the further and more distant fisheries. I mean there is not any serious deterioration; there are fishing grounds within reach capable of supplying the demand, and we cannot say that there is an actual injury to existing fisheries.

3825. But you think, as far as inshore fisheries are concerned, there has been a falling off?—Yes.

3826. Have you formed any idea of what remedies might be applied to these inshore fisheries, or what steps might be taken legislatively with regard to these inshore fisheries to secure a cessation in this deterioration?—I should be inclined to attach value to Mr. Holt's conclusion on that matter, namely, that trawling should be stopped in inshore districts altogether.

3827. Within the territorial limits?—Yes.

3828. Would you apply that broadly to all trawling of all sorts and kinds, including shrimp trawling?—That is a question. Probably any extensive shrimp trawling would be an injurious thing.

3829. Do you think that the proposal which has been so much pressed upon us, namely, that a size limit should be fixed by Parliament with regard to flat fish, is possible?—Not as a general feature, I think. Apparently, if any size limit were submitted, it would have to be somewhat different, according to the fishing grounds in question; that is to say, the East Coast would want a little different limit to the South Coast to be effective. There are also many qualifications about the application of any size limit which will be explained to the Committee by Mr. Holt and Mr. Cunningham. Apparently, something might be done in the inshore fisheries with regard to the limit, and with regard to certain fishes.

3830. Do you think it would be possible to apply a size limit to fish caught in one part of the sea, and not to fish caught in another part of the sea?—Yes, according to the port they were landed at; and as affecting home fisheries.

3831. In what way would you propose that?—You could prevent them being sold in the market; they could be seized if they were under a certain limit.

3832. But do you propose to apply that only to fish caught in a certain area. How could you tell, possibly, in which area these particular fish

Chairman—continued.

had been caught?—According to what is known as to where the fishermen had come from and landed their fish, and the nature of the boat and crew.

3833. Then, do you mean, that one boat sailing from a given port, and fishing in certain waters, should not be allowed to land soles, we will say, under 10 inches; whereas, another boat fishing from the same port, and going to a different water, should be allowed to land soles of that size?—A matter of that kind is not really one which I wish to go into, or express any opinion about as a practical question of administration.

3834. I think, if a suggestion is made by a distinguished scientist, like yourself, the Committee is entitled to have the definite reasons, and not only the definite reasons for that recommendation, but also suggestions as to the method in which it can be carried out. What I want to know is, do you think it possible, with two boats fishing from one port, simply because they go to different portions of the sea, that one should be allowed to land these small-sized fish and the other should not, or, if so, how could such a regulation be carried into effect?—There are various possible ways, I should have thought, but I am not prepared to give them.

3835. Would you rather not answer that question?—No.

3836. You do not, I understand, wish to give evidence with regard to the various sizes which would be useful?—No; that would be better given by Mr. Cunningham and Mr. Holt.

3837. Would you speak with regard to the close seasons?—No; all that I wish to present to the Committee are the general facts as to the association; the results which have been obtained will be given by those gentlemen who have been carrying on the investigations.

3838. Is there any other point you would wish me to ask you questions upon?—No; excepting, perhaps, as to the actual importance of careful scientific inquiry into these matters. We find that the general impressions of fishermen are frequently erroneous; they are not able to distinguish really the young fish of one kind from another; great mistakes are made; small species of fish are mistaken for young fish; and really, the ideas which the men have on these subjects are not well founded. It has been found we have been able to throw a good deal of light on some of these questions by accurate knowledge and by carefully investigating the fishes which are taken.

3839. Do you mean that you very often find amongst those fish which are roughly classed among immature fish, a number of small species, which never would grow big at all?—Quite so; and there is still a great deal to be done in the way of investigating the places where certain fishes pass their young stages. We have some conclusions on that subject, but we could go further if we had better means of travelling and research.

3840. As regards all these questions, would you prefer I asked Mr. Holt and Mr. Cunningham?—Yes.

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Commander *Bethell*.

3841. The Chairman has asked you about the expenditure in the United States. I suppose it is true that you do not expect from scientific research any immediate result, do you?—No. I think that is always so; with scientific research it takes some time.

3842. This large amount of money which the United States is spending, although it may not produce immediate result, in all probability will in the course of a few years produce results which are extremely useful?—Yes, certainly.

3843. Do you know how long the United States laboratory has been in existence?—The Fishing Commission, I think, has been in existence about 20 years now. I think it was in 1872 or 1873 it was started.

3844. Have they published any results?—They publish annual reports of very great interest, and they employ a large staff of naturalists, who inquire into different matters connected with their fisheries.

3845. Are their inquiries of much value to naturalists in this country?—Some of them are extremely interesting and important to naturalists.

3846. I mean to say, considering the difference of the quarters of the world, are they valuable for practical purposes, do you think?—No, in the sense that many of their fishes are of a different species to our fishes; fishes which are valuable to them do not occur here, and ours do not occur there; for instance, they have no soles in their market, and have other fishes which are quite different to ours. But of course their general results are instructive to us.

3847. Is there any material difference can you say, between fishes of the same class which exist in water of a different average temperature on the whole throughout the year; for instance, take soles living where they are caught here, would they be materially different to soles which might usually live in water of a somewhat different temperature?—I imagine soles which live in shallower water which might be warmer might possibly grow more rapidly, or something of that kind, but I do not know that any such difference has been established. On the whole we find that marine organisms that live in colder seas grow to a larger size, that is to say, if you compare the Mediterranean fauna with that of the North Sea the corresponding species grow to a larger size.

3848. Under the same circumstances is there any considerable difference as far as is known as to the period at which they spawn?—That depends partly, no doubt, upon the season, but then you must remember that the temperature of the deeper water does not vary appreciably.

3849. It does down to 100 fathoms, I suppose?—Yes. It is only the littoral water which is affected by the temperature of the seasons, and to some extent the food of the fishes accordingly which floats near the surface, but the deeper water varies very little.

3850. Is it the case, as I think we have been told by various gentlemen in the course of this inquiry, that nearly all the young fish, after they are complete fishes, make their way into shallow water?—Many of them do.

3851. As they grow bigger do they work out
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Commander *Bethell*—continued.

into deeper water?—Yes, that is the case with many species.

3852. Are most of our estuaries and places of that sort, places for breeding fishes?—That depends on the habits.

3853. I suppose scientific research as regards fishes is, comparatively speaking, in its infancy?—Yes, especially as regards sea fishes and as regards their habits and life. We know them as specimens and so on, well, but the opportunities of studying them and following their movements and their habits and food and so on are very limited, and it has been only recently taken in hand seriously.

3854. The Marine Biological Society at Plymouth was the first started, was it not?—Yes; and it is the only large laboratory of that kind in the country.

3855. We have been told that the east side of the North Sea is much more prolific in small fishes than the Dogger Bank and this side; is that the case, as far as you know?—I believe that is the result of such inquiries as have been made. But those observations, of course, are chiefly due to the trawlers themselves, and to such cases as our Mr. Holt going with the trawlers, and seeing what are taken, has reported on.

3856. I remark, either in Mr. Cunningham's or Mr. Holt's report, that it is very doubtful they say whether the fishes migrate so far as to cross from the east to the west side of the German Ocean; can you tell us anything about that?—No, I do not wish to offer any evidence of that kind; they will tell you what their results are. My function has merely been to organise and preside over the general administration of this association and laboratory.

3857. Has the Cleethorpe's laboratory done any good work yet?—It has been useful to us, as the directors of it have lent it to us for Mr. Holt to carry on some of his work at, and it has been a very useful little station.

3858. I asked Professor M'Intosh whether there was correspondence between the Scotch Fishery Board and the Marine Biological Society with regard to scientific inquiry, and I did not gather that there was much correspondence between the two bodies; what do you say as to that?—They send us their reports, and we send them our reports; and we have also always had a member of the Scotch Fishery Board on our council. Professor M'Intosh has been himself, and I think is now a member of our council. Professor Ewart has also been a member.

3859. You do not, however, find it convenient or do not choose to work experiments directly in connection with one another, do you?—Of course we are continually in communication; we know the scientific gentlemen connected with the Scotch Fishery Board personally very well, and know what they are doing, and are continually corresponding privately on such matters. With regard to the Scotch Fishery Board, we furnish them with our scheme of work each year; we tell them what we are taking in hand, and they inform us also what they are doing.

3860. It would seem, would it not, as if better results would be expected from correspondence of that sort than working independently?—Yes,
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Commander *Bethell*—continued.

but this matter of the size and maturity of sea fishes has to a large extent been worked in common; they have made their observations, we have made ours, and we have full knowledge of their labours.

Colonel *Cotton-Jodrell*.

3861. With regard to the different sizes of the fish as they arrive at maturity, you made a distinction in answer to the Chairman as to the east and south coast fishes; have you anything to say about those on the west coast?—No, my statement is founded upon the comparative results of Mr. Holt in the North Sea, and Mr. Cunningham about Plymouth and the south-west fisheries, but we have not made any observations ourselves on the west coast.

3862. You said just now that you were in communication with the Scotch Fishery Board, and in your previous remarks you alluded to the experiments which they had been carrying out with the "Garland"; have you been connected at all with the experiments the Lancashire Sea Fishery Board have been making?—No, not at all; I believe they have communicated with us, but only with the object of getting some money from us. We should be delighted to co-operate with them in any way as to experiments. Of course there is not much occasion for private communications. We publish a journal twice a year, and our results are open to everybody, and I have no doubt that many members of that Board, or the naturalists who are working in Lancashire, are members also of the Association, and receive that publication.

Mr. *Buchanan*.

3863. With regard to expenditure, do you think that for the expenditure which has been already made in connection with your Association and the Scotch Fishery Board in the investigation of the habits of fish, a good return has been received?—I should say so; for instance, I think at the present moment we are on a very much surer footing, or at any rate, that we can prevent foolish legislation, or legislation of a hopeless kind. We are in a position to say that certain things would be of no use.

3864. Negatively, at any rate, you can afford valuable information?—Yes.

3865. And probably better results would have been obtained, if you and the Scotch Fishery Board had better material for the investigation of deep-sea fishing?—Quite so; if we had had a somewhat larger income to carry on these inquiries.

3866. For instance, with regard to the subjects referred to us as close seasons, and regulations of modes of fishing and enclosed areas, we can only find good legislation upon these subjects if we have accurate information from various parts of the seas?—Quite so.

3867. And would a long-continued system of scientific investigation enable us to obtain that?—It would; and if you think of the actual value of the fishery industry, a few thousands a-year can well be spared for obtaining this information. I suppose the value of fish landed in Great

Mr. *Buchanan*—continued.

Britain and Ireland is something like 8,000,000*l.* or 9,000,000*l.*, or even 10,000,000*l.*

3868. And the expenditure at present upon the matter, you think, is quite inadequate to the value of the industry, do you?—So it seems to me.

3869. With regard to the question of statistics, I see Professor McIntosh also made a similar suggestion at Question 3554, that each liner and trawler and shrimp fisher, and so forth, should fill up a slip of paper on his way home from the area, and hand it in to the harbour master or coastguard, or fishery officer; is that the kind of idea you have?—Yes; it seems to me that it is so extremely important to have these returns, that, even if they were incomplete, they would have value, and that the effort ought to be made.

3870. Does the United States or any other country obtain such fishery returns?—That I am not able to tell you.

3871. Is there anything you would like to suggest to the Committee with regard to the other subjects referred to us, namely, the fixing of close seasons, or the further regulation of certain methods of fishing?—No, I do not propose to offer any remarks myself about that.

Major *Jones*.

3872. You spoke of small fish being mistaken by the fishermen for young fish; is it that they mistake the dab for the sole, or that they mistake an abnormally small sole for a young sole?—One mistake of the kind made is to mistake a small species of sole for a young sole. That has been often mistaken for a young sole; but the most frequent mistake is to mistake the young of dabs for the young of turbot or even soles. The fishermen do not know the character and appearance of the young fish.

3873. What percentage of such fish would there be in a haul?—I am not prepared to make any statements of that kind. The Association has got this matter together; you have the printed reports, and you will have Mr. Holt and Mr. Cunningham, who will tell you about that kind of thing. All I am able to do is now generally to speak of the work of my association, and the general need of that work.

3874. Have you any scheme in your mind for the scientific education of fishermen upon the question of fish generally?—I think if there were more systematic inquiry in operation in any locality, the intelligent fishermen would get to understand what was being aimed at, and in many localities would become educated by the presence of the scientific staff that was making inquiry there. But of course, that depends very much upon the locality. Mental receptiveness differs in different parts of this country. I fancy that on the east coast we should find a good many intelligent men.

3875. Would you suggest that lectures should be given in connection with some of the colleges at the centres of fisheries?—I think some very simple lectures and exhibitions of specimens, and so on, might be useful, but I do not think there should be anything more elaborate than that.

3876. You

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Mr. Robert Price.

3876. You told us of the large amount the United States expended in experiments; do you know if they have had any practical results from them?—Yes, they have had a good many practical results of one kind and another.

3877. Has it led to any legislation there with regard to fisheries?—On the whole, the line which they have taken has been not to interfere with, and not to restrict, the fisheries. Their first policy was to try and replenish the fisheries by artificial hatching, and so on; and I am not prepared to say that that has been a success. It was a very serious experiment, and was made very carefully, but the evidence of its success is not satisfactory at all.

3878. Is there a diminution of the flat fish in the States, do you know, as well as here?—I do not know.

3879. You do not know the statistics?—No.

3880. You said in one part of your evidence that at the present moment, on your existing knowledge, to some extent you were proceeding blindly; I understand, however, your association is prepared to make certain recommendations as to legislation already?—We are prepared to give certain information which may be useful, but the questions which involve administration we do not propose to consider.

3881. And are not some of your representatives going to suggest any legislation?—No, not exactly; they will merely tell you facts which will bear on certain possible legislation; but we do not wish to commit ourselves to any recommendations.

3882. Do you feel that with further investigation you may be in a position to make some absolute recommendations, but without further investigations you do not feel disposed to do so; is that so?—That is very much the case; but also we do not think that it is our function, as a scientific association, to do so. We wish to furnish all the information we can, and to leave it to those acquainted with the habits of fishermen, and the possibility of police, and so on, to make what legislation they can on that basis.

3883. But still, with the insufficient means you have had at your disposal, your investigations have not been sufficiently accurate to enable you to set forth a great number of facts in connection with scientific research; is not that so?—You will find there are some very definite statements to be made with regard to the size and maturity of fish, and so on, and the places they frequent, and certain areas; but we could extend that information very much with larger means.

3884. You suggest that the place where the particular fishing crew come from, and the place where the fish have been absolutely caught, should be set out in the Board of Trade Returns. But do you not think in addition to that information you ought to have information as to the proportion of undersized fish in those catches?—No doubt that would be a very valuable addition.

3885. If you got this considerable extra grant you suggest, and considerably greater facilities for carrying on your investigations, what class of points do you expect to elucidate?—One thing we should expect would be to be able to find

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Mr. Robert Price—continued.

new fishing grounds, and also to determine some questions as to the movements of fish, a thing which we have taken up at Plymouth. For instance, with our limited means, we have studied the occurrence of anchovies, but we are not able to pursue that question thoroughly because we want to go right out into the Channel and look for the anchovies. They must be passing along the Channel at certain times of the year, as we catch a few on the coast; but if anything like an anchovy fishery could be established, it would be a valuable thing. Then also as to the occurrence of small fish, and also the proceedings of fishermen, it would be valuable to be able to accompany trawlers and to leave them at pleasure. I mean to see what they were doing, what they were catching, and then come away. You do not want to stay out; a naturalist can hardly be expected to stay out with a trawling fleet.

3886. Then with regard to the hatching of fish, we have had some evidence from some scientific witnesses that the time had come for experiments on a large scale, in the way of hatching young fish, do you agree with that evidence?—Dr. Gunther will have something to say about that. On the whole I am inclined myself to think that it is not a very useful thing to hatch fish, but the more important thing is to get quite young fish, very small, about an inch or so grown, and try to rear them to a saleable size in ponds. The hatching is a more questionable thing to my mind.

3887. You would find a difficulty in getting the young fish together, unless you hatched them in a particularly favourable place for rearing, would you not?—No, you might probably get them in large numbers. As you will see at the end of the summary of evidence we have asked Dr. Gunther to say something about that.

3888. There was one suggestion made by one of the witnesses that, as he thought, more damage was done by destroying female fish that were close upon spawning, than was done by the destruction of immature fish. He suggested that even a short close season would be desirable. Now I notice from that very interesting map on the wall, that a close season from February to March for plaice, and May and June for soles and other flat fish would appear to be valuable, because those appear to be the months when the greatest amount of spawning takes place?—Yes.

3889. Do you think such a short close season would be valuable?—I think if it could be adapted to the most critical time it would be a most valuable thing, but what we feel about that is the extreme difficulty of imposing such a thing.

3890. You might prohibit the sale of those particular fish in the markets, might you not?—Yes.

Dr. Clark.

3891. Do you know if any of the eastern states on the eastern sea board have spent money on investigations?—In the United States?

3892. Yes?—Yes, that is an important fact; in addition to this expenditure by the Imperial Government, the particular States in the United States have, some of them, their own fishery boards or commissions, on which they spend a considerable

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Dr. Clark—continued.

considerable sum of money; Maryland, for instance, spent a good deal of money on matters in connection with their oyster fisheries.

3893. Then I take it that your present position as an association is that you have only practically begun your work, and you have been prevented from carrying out all you desire from want of money?—Yes.

3894. Especially from the want of a large sea-going vessel?—Yes; our contention is, that with the money we have had we have made a satisfactory beginning; we have shown that certain things can be ascertained by our methods, which are of value, and we could go on further; we know what work to do, and we know the men to employ, and we are thoroughly ready to spend more money if placed in our hands.

3895. How do you circulate your reports to societies and so on?—We give them away to corresponding bodies in other countries, and in different parts of this country, and then we have about 200 members of the association who receive the reports.

3896. Do you send them to free libraries or any popular institutions?—No, we do not give them; we should on application do so.

3897. Have you taken any means of popularising what you have discovered by sending round any of your staff to lecture, or having lecturers going to various districts?—No, that is not our function. We have allowed members of our staff to give lectures when asked. For instance, the Essex County Council had some lectures upon fishery matters which some members of our staff have given, but we do not propose to arrange such lectures; it is rather extending our operations too far.

3898. Do you consider yourselves formed more for research than for spreading the results of your investigations?—Certainly. Of course we wish in every way to place our reports fully before the public.

Mr. Robert Price.

3899. What do you think would be the total sum of money which would be adequate for the operation of your association, and carrying out your entire programme of sending casual scientific persons on board other people's trawlers, and also keeping a good boat for yourself?—I think we should be modest on the subject, but we should like now to have 3,000*l.* a year, instead of 1,000*l.* a year, and 5,000*l.* to buy a sea-going steam vessel. That is about what the committee of investigation of the Scotch Board gets.

Chairman.

3900. Whence does the income of your association arise, and in what proportion?—It is mainly derived from a grant from the Treasury, and partly from the voluntary generosity of public companies and private individuals. The Treasury grant is the main source. In this paper which has been circulated giving an account of the work to the Committee there is a mistake. It should state that the greater part of our income is derived from the Treasury; the Fishmongers' Company give us 400*l.* a year.

Major Jones.

3901. May I ask if any attempt has ever been made to get anything from the county councils?—Yes, we have negotiated with the county councils on these matters, and we were asked if we would undertake the instruction of fishermen, and work of that kind. We tried to arrange some lectures in Devonshire and Cornwall, but it did not come to anything. The education of fishermen hardly falls within our scope, and they were not prepared to give us funds of any amount which would enable us to carry out the thing in a reasonable way. Subscriptions to our general funds we have not received in any way from county councils, although we have applied to all that have sea-boards.

Dr. ALBERT GÜNTHER, F.R.S., called in; and Examined.

Chairman.

3902. I NEED not ask you any question to illustrate your knowledge of fish life and fishes; you have devoted your whole life to the study of fishes, have you not?—I am afraid, particularly as regards questions which concern this Committee, I am not so well able to give information as the two gentlemen employed by the association, and of late years my other official duties have so much occupied my time, that I have not done so much in connection with fishes as I should have liked to do; still I hope to be of some use to the Committee.

3903. Can you give us any information as to whether there has been any general depletion of fishes in the North Sea?—I believe, myself, that that has been the case. The opinion on the whole, is so unanimous, that one can hardly doubt it, and from the little which I myself have seen, when engaged in fishing, I must say that it is extremely easy to deplete a certain area of fish.

Chairman—continued.

3904. Can you tell us at all what has been done abroad in the way of remedial measures?—In this respect, I am very glad to supplement some information given to you by my colleague Professor Lankester. The question has been asked him, whether he thought that a beneficial return had been received by the United States for their great outlay, or a return which was at all adequate to it. This is extremely difficult to answer. First of all, we must consider that the operations of the United States Government cover not only sea fish, but in a great measure, and in the beginning almost exclusively, fresh water fish; and there is not the least doubt that, as regards the distribution of Salmonoids, an immense deal of good has been done. We must also consider the immense area of the United States in which these operations are being carried on. Therefore, the sum total of benefits is difficult to estimate, it cannot be estimated. With regard to sea fish, they have had one or two
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most remarkable results: they found out that there was a great scarcity of the Menhaden, a herring-like fish, which is used particularly in the production, I believe, of oil and manure, and is an article of considerable commerce; they artificially re-introduced this fish on parts of the coast, where it had become scarce; also they introduced the fish into new parts, where it had not been common; and the Menhaden fishery is now quite as important as it was at its best.

3905. Do you attribute the renewal of the success of the Menhaden fishery to the action taken by the Government?—There cannot be the least doubt about it; but we have got a much more definite result in their dealing with another important food fish called the shad, a fish which is something like our shad, but which is much more esteemed as food. This fishery had been falling off for a considerable time. When the United States Commission took it in hand, they not only brought it back to its status on the Atlantic coast, but they actually introduced it on the Pacific coast, where the fish never existed before; and there, in a number of bays and rivers (the fish is a migratory fish) off the Pacific coast, the fish is now fairly common; so that there is an absolute proof of the utility of their operations.

3906. Then again the American shad is not strictly speaking a sea fish, is it, it is partly a fresh-water fish, is it not?—Yes, that is true.

3907. Therefore it is rather to be regarded in the same light as the salmonidæ, is it not?—Yes; it is to be regarded in the same light as our shad; our shad always spawn in rivers. Then of course they have made a great number of experiments which have given negative results, thus saving us the trouble of repeating them, and exposing ourselves to the risk of failure; that is also certainly one benefit which they have conferred. On the other hand, I must also say that the Americans have perhaps been a little too lavish with their money and their expenditure. They have one steamer of 385 tons, a first-rate sea-going vessel which is entirely fitted for laboratory work only; a second steamer, the "Fish-hawk" of 205 tons; and a most admirable sailing-vessel, the schooner "Grampus"; an expenditure of that kind it is not contemplated the British Government should undertake, as we have not the same extent of sea-board, but still I say it is absolutely necessary for the Marine Biological Association, or whatever board undertakes anything like investigation into fishery matters, that they should have a vessel properly fitted for it, entirely at their own disposal.

3908. Can you tell us anything that any of the European nations have done in this direction?—I understand that the Norwegians have done a great deal as regards the hatching of fish, but the results are very obscure; the Italians do a great deal by rearing young fish in enclosed estuaries, and in shallow water bays; the French have a great number of stations and laboratories, particularly for the cultivation of oysters and mussels on the coast, and I believe they are very profitable; however, I have not gone into this matter.

3909. Do you think that the experiment of 0.93.

Chairman—continued.

establishing hatcheries is worth trying?—Certainly, I think very important results may be obtained by it. The Americans have tried, particularly as to the cod, and so have the Norwegians, but the results have been, so far, very uncertain; they have done nothing except to hatch the ova, and immediately after the young fry have been hatched, they were thrown into the sea, at places which were considered suitable. Of course it is quite impossible, to say, for a few years, whether any beneficial result is to be obtained from that practice; but with regard to British fish, I should say, that considering how very little we know of very important sea-fish, say for instance, the red mullet, of the propagation, migrations and movements of which we know absolutely nothing, and of the john dory, another exceedingly valuable fish, I think it is of the greatest importance that hatcheries should be established, where such fish could be experimented upon.

3910. Then do you think that the young fish should be retained in ponds or something of the sort till they get to a certain size?—Certainly, and I think the English and particularly the Irish coasts abound with inlets which are extremely suitable for the cultivation of such fish.

3911. Do you know of any case where such operations have been attempted?—Yes, I know of one which was attempted some 40 or 50 years ago, and it is fully on record, and has been on record for a long time.

3912. What is that?—That was in Guernsey. You will find it recorded in Yarrell's "British Fish." A gentleman of the name of Arnould stocked a water of three or four acres with young grey mullet. He took the young fish, and after two or three years the mullets had grown, not only to a marketable size, but to a larger size than such as are caught about Guernsey. Of course, a grey mullet is not a very valuable fish, but still very likely those three or four acres of water yielded greater result than a farm-field would have done.

3913. But also the grey mullet is a fish which naturally frequents these shallow waters, is it not?—Yes.

3914. The conditions applying to grey mullet would not quite apply to the deep sea fishes, would it?—No, we must make certainly a distinction between the different fishes, according to their habits.

3915. The grey mullet feeds principally on weed, does it not?—On decomposing animal and vegetable substances.

3916. But largely on vegetable substances, does it not?—Yes. For many years I used to know a place on the Hampshire coast, which was called Pagham Harbour, near Chichester. That would have made an admirable place if enclosed, and it could have been enclosed at very slight cost, for such fish as grey mullet, plaice, flounders, smelt, and particularly sand eels, an extremely valuable fish for bait, which deserves very much greater attention than it has had at present.

3917. Then so far as hatcheries are concerned, you would certainly recommend the experiment being

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being made in regard to that particular plan, would you?—Yes.

3918. Now, with regard to artificial propagation at sea, do you think anything could be done in that direction?—I never was quite sure why our secretary put this as a particular heading, but I believe he had in his mind the fact that trawlers very frequently catch a great number of fish engaged in spawning, which lose their roe and milt on board ship, and that efforts to save this for reproduction might be made. I doubt very much whether this would have any practical effect. Trawlers, under the circumstances under which they generally work, would not be inclined to save the spawn. If any hatcheries should be established, it would be necessary to have a vessel specially fitted for collecting the spawn, and collecting the spawning fish. This cannot be done ashore, and cannot be done by any kind of vessel going out. In order to get a million, or 10,000,000 or 20,000,000 of eggs, it requires a particular apparatus to keep the fish and to collect their spawn.

3919. I do not know if there is any other point which you wish to speak to?—No; except that I would press upon the Committee particularly the desirability of having places on the coast in which these fishes can be reared to maturity.

3920. That means to say really you think a larger expenditure of Government money should be made?—Oh, yes.

Mr. Robert Price.

3921. I suppose the improvements that the Americans have made, that is to say, the two improvements you spoke of, the improvement of the Menhaden fish and the shad fish, are due to hatcheries entirely?—Quite so.

Major Jones.

3922. You mentioned some type of vessels used for scientific purposes in the United States, do your remarks apply entirely to the seaboard, or to the inland waters also?—Only the seaboard; not to inland waters, like the great lakes.

3923. Do you know what is being done on the

Major Jones—continued.

chain of lakes at all in the way of scientific cultivation of fish in the United States?—In the preservation of sea fish?

3924. No; I am referring to inland waters, lakes Superior, Michigan, Huron, and Erie?—No.

3925. What I wanted to get at was, whether there was arrangement and co-operation between Canada and the United States, or the several states along the line of the St. Lawrence?—I am not aware of any arrangements that have been made. As you mention the vessels particularly fitted for this service, I am reminded of another great benefit derived by the United States from the employment of a special vessel, and that is their thorough investigation of the deep water all round the Atlantic Coast; in fact, there is now not even a European country, where the fish, deep water as well as surface fish, are better known than those of the United States.

Commander Bethell.

3926. Can all sea fishes, as far as you know and as far as inquiries show, hatch artificially and be reared artificially?—As far as I know at present they can, but there is a great difference as regards the vitality or power of resistance, which seems to be innate, in the ova; for instance, the ova of certain species of vendace, a kind of coregonus, can hardly be brought to the point of hatching, while other species will not only freely hatch, but the young fry can be transported a long way.

3927. Is that a question of temperature?—That nobody can say; certainly the temperature and the quality of the water has a great deal to do with it.

3928. Are fishes divided into two great classes, like animals, that is to say, carnivorous and graminivorous?—No; there are very few fishes which feed on vegetables alone.

3929. Has inquiry, so far as it has gone, shown that it is easier to rear the fish which feed on vegetables alone, or not?—No; there is no evidence; for instance, the carp is a fish extremely easily reared, and so is the pike, and those are two quite opposite types of fish as regards their mode of feeding.

Mr. ERNEST W. L. HOLT, called in; and Examined.

Chairman.

3930. You are Naturalist to the Marine Biological Association, I believe?—I am a naturalist, on the staff of the association.

3931. Have you been recently stationed at Cleethorpes?—At Grimsby, which is near Cleethorpes.

3932. How long have you been there?—Since the beginning of last year.

3933. That is about 18 months?—Yes.

3934. You have had, of course, exceptional opportunities for making yourself acquainted with the condition of the fisheries in the North Sea, have you not?—Excellent opportunities, as far as concern the fish that are landed, but no great facilities for getting to sea except in such manner as I could manage by the aid of the

Chairman—continued.

fishermen, and it is difficult to go always to the places where one wishes to go.

3935. Do you feel the want of some vessel over which you could have control yourself?—Very seriously.

3936. But, I suppose you have made trips in the trawlers working from Grimsby?—Yes.

3937. Have you found willingness on the part of the trawlers to take you on board and let you see their operations?—Yes, they are extremely willing to have me, and they are very kind and willing to give information and help in every possible way they can.

3938. But still there has been this advantage to you in the fact that you have been obliged to go on the terms that you have been able to make yourself

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Chairman—continued.

yourself acquainted with the operations of the trawler at sea?—Yes.

3939. I do not mean from a scientific point of view, but probably from the point of view of the Committee, your opinion is more useful than if you had been carrying on trawling operations of your own; do you feel yourself in a position to express an opinion one way or the other, as to the truth of the allegations with regard to the depletion of the North Sea fisheries, especially in regard to the flat fish?—I am strongly of opinion that there has been an immense depletion; of course, it is a thing I cannot speak to of my own knowledge.

3940. From the evidence that you have been able to gather, would you say that the outcry is justified?—It is perfectly justified, I believe; especially from what we are told on all hands of these eastern grounds, about which we hear as having formerly yielded an immense number of large fish: now, I can say for certain, there is hardly a large fish on them at all. I am talking of plaice chiefly.

3941. Have you been on to these eastern grounds yourself?—I have not been to the southernmost ones which I wished to go to, because I could not get there for the reasons I have mentioned. One can never tell where a fisherman will go when he starts.

3942. Have you been round about Helegoland?—I have not been on the grounds south of the Horn reef at all.

3943. From your own observation of what takes place on board trawlers, are you of opinion that a large quantity of immature fish is taken by the trawlers?—Yes. It depends entirely on what ground they are working. On some grounds they take practically very little immature fish of valuable kinds, and on other grounds an immense quantity, and on some grounds practically nothing else.

3944. Do you think it would be practicable to prohibit the capture of these smaller fish?—I do not know that one could prevent the capture of them except by preventing the capture being profitable to the fishermen.

3945. I was coming to that; do you think that by any regulations with regard to mesh, or anything of that sort, it would be possible to stop the capture of the fish?—I believe certain kinds of fish might be saved in their immature stages by an adjustment of mesh, but I am not yet in a position to recommend a particular adjustment which would have the desired effect.

3946. Supposing the sale and landing of these fish were prohibited, do you think that the lives of these fishes would be saved?—Yes, in this way. If the landing of the plaice under a certain size were prohibited, which size I should say should be 13 inches, the lives of the fish would be saved. Of course, it would not be worth the fishermen's while to go over to these eastern grounds to fish at all. If he could not sell the small plaice he gets it would not pay him.

3947. Would it be practicable on board a trawler as a rule to separate the small from the big fish in the haul?—Only in very short hauls, I think, on grounds where fish are not specially abundant. The hardier fish might be separated, or might survive, so that it would be useful to

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Chairman—continued.

separate them, but the more delicate ones would die rapidly, especially the round fishes.

3948. Do you know the sizes that are suggested by the Fishery Conference?—Yes.

3949. Do you think that those limits of size suggested by the Fishery Conference would have a satisfactory result if it were adopted?—No, I do not think that would be any use.

3950. You think they would be of no use; on what ground?—Well, to take the case of plaice; I see the conference recognise a limit of 10 inches. On these eastern grounds there are a great many plaice over 10 inches, and I think the fishermen would still go over there and get all these fish; pick out the good ones, and shovel the others over when they had finished their other work, as is their habit.

3951. You do not think a limit of 10 inches would be sufficiently big to keep the fishermen off these eastern grounds, which you think it is desirable to protect?—Not at present, certainly.

3952. Have you formed any idea as to what a proper and a useful size limit would be?—Theoretically I should say the limit at which the fish begins to spawn is the useful limit, but I do not say it is a practicable one at all.

3953. Will you tell the Committee what those sizes would be?—Plaice in the North Sea seem to spawn mostly at 17 inches for the first time, soles at 12 inches, turbot 18 inches, brill at 15 inches, lemon soles at 12 inches, cod at about 25 inches, and haddock at about 13 inches. But in the last two cases I have not completed my researches.

3954. Would you recommend any such limit to be adopted with regard to round fish at all?—No; I do not see that it would do much good.

3955. That has not been much suggested to us. The suggestions the Committee have received have referred entirely to flat fish in this respect?—Exactly. I do not think you could do any good by returning trawl-caught round fish to the sea, unless there was time to go round and prick all their air-bladders. They could be returned by liners, which do not catch so very many small ones.

3956. Do you think if the size of maturity for spawning be adopted it would have the effect of saving the small fish on these eastern grounds?—Yes, it certainly would, I think.

3957. But, on the other hand, by adopting so large a size as that you would be greatly interfering with the operations of the fishermen, would you not?—Very much indeed, because there are a great number of fish on other grounds that are short of that limit, and those limits are founded on the conditions of the female. The female is a larger fish, and much more numerous than the male, so that a lot of the fish which failed to reach that size would probably be mature males. I find when one gets a lot of fish on the central grounds in the North Sea, if a good many are below what I call the biological limit, they mostly turn out to be males. But there is always a sprinkling of immature fish that follow the mature ones wherever they go.

3958. May I ask you whether on the whole you think it is desirable for this Committee to make any recommendation of a size limit at all?—I think a size limit of 13 inches for plaice would

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Chairman—continued.

would do a tremendous lot of good. I mean to say that the facts which I have collected seem to point to that as the limit which can be practically and usefully enforced, that is for the North Sea.

3959. What would you say for other flat fish?—The sole, turbot, and brill are rather hardy forms, and I believe a large number of them would survive if returned to the sea from grounds other than the eastern ground, and I should say, as they are extremely scarce, the highest limit which is necessary ought to be enforced, in fact the limit at which they spawn.

3960. With regard to the lemon sole, would you say whether there was any necessity for a limit at all?—I do not think so; very few small lemon soles are brought to market, comparatively, and it is not a very numerous fish, or, as far as I know, a very important one. It is a delicate fish which would not easily survive if returned after being caught by the large trawls.

3961. You have brought the Committee specimens of the fish at these named limits, have you not?—Yes.

3962. To what do you attribute the depletion of the North Sea, which you believe to have taken place?—The continual trawling on grounds that are chiefly frequented by undersized fish, so that comparatively few fish survive to reproduce their species.

3963. Then you would say from over trawling probably?—Yes, from over trawling.

3964. Do you think any proposal for establishing close seasons would be practicable or useful?—The difficulty is that fish do not all spawn at exactly the same time. Dr. Fowler has made a diagram showing the spawning seasons, which you will see on the wall. The thick lines are supposed to mark the principal spawning season, and the finer ones the beginning and the end of it. Practically, there are valuable fish spawning from January to September.

Mr. Heneage.

3965. That is nine months out of twelve?—Yes.

Chairman.

3966. Do you think that interference with, or rather a checking of, the fishing on these eastern fishing grounds would be beneficial to the North Sea as a whole?—I think so, certainly, because I regard those grounds as the nursery from which the central areas of the North Sea are recruited.

3967. Do you think that the fish migrate as far as from the western coast of Holland to the centre of the North Sea?—Yes; when I say the centre I mean the comparatively deep water all about the Dogger Bank, and down towards the channel.

3968. Have you any opportunity of tracing the migrations of the fish in the North Sea at all?—Yes, to some extent as concerns these eastern grounds. The small fish always begin to disappear from the eastern grounds towards the Autumn, and just about the same time our trawlers begin to find fish corresponding in size to the largest amongst them between those grounds and the Dogger, and I have always

Chairman—continued.

supposed that they are these small fish from the eastern grounds passing over to the Dogger.

3969. Are you able to trace at all those portions of the North Sea in which the fish spawn?—Practically, fish spawn all over the North Sea, except in the very shallow water, but there are certain areas where they appear to congregate especially for spawning.

3970. Can you tell us those roughly?—The plaice spawn a great deal on a ground called the Westernmost Rough, and on a number of grounds within a radius of about 50 miles from the Humber, but so far as I know they do not spawn at all close to the coast on the eastern side. A great many of them spawn on the Dogger and on the great Fisher Bank.

3971. Would you say that there is practically no spawning goes on within 10 miles of the coast on either side?—Very little, I should say; I believe off Flamborough Head they spawn rather close in—the coast is pretty bold there—but I am not certain of that.

3972. Would your view be that, after the eggs are hatched, the young fish find their way into the shallow waters?—Yes; my own experience of tow netting and trawling is that plaice, for instance, are hatched at a short distance from shore and find their own way in; they are not entirely brought to the shore by the tidal action.

3973. That brings me to the question of protecting certain defined areas. Do you consider that that at all is practicable or desirable?—It would be particularly desirable, I should say, and would be the best method of dealing with the question, if it were practicable to protect extra territorial waters, but the stretch of water that requires protecting is extremely large, and I imagine that gunboats find it difficult to protect even the territorial area. And of course it involves international agreement, about which I can give no evidence.

3974. Then, on the whole, I take it you speak rather hopelessly of the adoption of any methods to check the depletion which you believe to have taken place?—I believe the enforcement of the size limit would very largely check the depletion.

3975. But, as I understand, you advocate a very large size limit?—Well, for plaice, which is, I think, the most important, I advocate a very small limit only (13 inches); that is, only rising an inch on the Conference limit of 1890.

3976. It is vastly larger, is it not, than the limit adopted by the foreign nations, which are, France, 7 inches; Belgium, 7·2 inches; and Denmark, 10 inches?—Yes.

3977. And I understand it is especially these shallows on the foreign shores that you wish to apply the size limit to, so that, unless you get an agreement with the foreign nations with regard to the size limit, you would do very little good, would you?—It seems to me that the great bulk of the destruction is done by our own boats, or by foreign vessels trading to our own markets; and I think the remedy should be applied at home in preventing the things being disposed of. I fancy that would check, of course, our own boats, and, to a large extent, check foreign enterprise in that direction.

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Chairman—continued.

3978. Do you not think there would be an awful outcry amongst British fishermen at the prohibition of sale of plaice under 13 inches?—Not by the North Sea fishermen, I think. There might be an outcry by some of them.

3979. Only the last day we were here we heard from one of the witnesses that in St. Andrew's Bay there was an enormous number of plaice caught, which ran from, I think, about 9 to 12 inches?—Yes.

3980. And fish which found a very ready market?—I fancy those are disposed of in Scotland, but I cannot speak from my own knowledge.

3981. But you could not make a size prohibition like that applicable only to a certain part, could you?—It seems to me that is almost necessary.

3982. Would you propose that this prohibition of size should apply only, say, to Hull and Grimsby?—Not only to Hull and Grimsby, but to all the ports to which the vessels fishing the North Sea trade.

3983. Then, may I put it in this way: that you would make it apply only to deep-sea trawlers? I think not, because there are a great number of small fish on our own coast which fishermen disturb.

3984. Then, I understood you to say, rather that you would leave St. Andrew's Bay alone?—I was not thinking of Scotland; I was thinking only of England at the time. I understood the control of such matters was in the hands of the Scotch Fishery Board for their own country.

3985. Not the size limit; that would require an Act of Parliament?—Yes.

Mr. Mallock.

3986. That would involve the stopping of the landing of the fish, would it not?—Yes.

3987. You could not do it merely by stopping the sale, could you, if you applied it to only one part of the country?—No, I think not.

Chairman.

3988. With regard to other methods of increasing the fish supply, have you given any attention to the question of hatching, or not?—I have studied hatching a great deal, from a scientific point of view, but I have never had any opportunity of making experiments on a practical scale.

3989. And you could not, therefore, give an opinion whether such experiments were likely to be successful or not. I do not mean as to the hatching out of the fish, but as to replenishing the fisheries afterwards, could you?—I believe if suitable rearing ponds could be provided, in order that the fish might be reared to a size, when to some extent they could take care of themselves, great good could be done; but I am by no means certain that the mere hatching of a fish in an aquarium is any better than allowing him to hatch himself in the sea; he is no better off when he is turned out than he would be under natural conditions.

3990. Do you think there would be any serious difficulties in the way of keeping these young fish alive until they had got to a size to take care of themselves?—It has been done in Norway.

Chairman—continued.

way, in the case of the cod, in the case of Captain Dannevig, and if he has done it, I do not see why other people should not. I have never made any attempt to rear fish myself to a large size.

Mr. Heneage.

3991. If I understand you aright, you think some good might be done if fish were prevented being sold under the sizes which you suggest?—Yes.

3992. But looking at the sizes that have been resolved upon from time to time by sea fisheries conferences, and by the National Sea Fisheries Protection Association, do you think any good would be done by stopping the sale of the fish at the sizes they agreed upon?—No, I think not. In the case of the sole and the lemon sole, some little good might be done, because the sizes fixed upon, happened by chance to be near the biological ones; but in the case of turbot and brill, I see no use at all in the size they propose. It leaves the matter, so far as Grimsby is concerned, exactly *in statu quo*, because they never land any turbot or brill under 12 inches there.

3993. It does not matter where it is landed so long as it is caught, does it?—No.

3994. And therefore you think it would not stop the depletion of the sea if, at the great fishing ports, fish below a certain size was prevented from being landed and sold, the sizes being those which have the general approval of the trade?—I do not think so, because they are too low, especially in the case of the plaice.

3995. And you do not think, do you, that it would be any use stopping the catching of fish at certain months of the year, on account of the different times at which they spawn, unless you did it for the whole time, as shown by that map, say, from January to July or August?—I do not think it would be necessary to have it so long as that.

3996. What is the least time which you think would be effectual?—From the beginning of February to the end of May would do, I think, a great deal of good; but it would be necessary to suspend all trawling operations altogether.

3997. Then that would make it absolutely necessary, would it not, to suspend trawling operations, and lay up the boats for one-third of the whole year?—Yes.

3998. Do you believe that the fishing trade could be carried on under those conditions with any prospect of remuneration to those employed in it?—I do not believe it could; but, of course, I am not a judge of trade matters.

3999. Therefore, so far as you know, you do not believe that fishing operations could be carried on with any prospect of remuneration with, say, a close time of four months?—No.

4000. Therefore, does not that render that proposal entirely impossible?—I think so.

4001. Then may I conclude that, in your opinion, it is useless to stop the sale of fish unless we go to a very much larger size, and that it is absolutely useless to attempt to make a close time, because it would render fishing unremunerative and impossible?—In my opinion, to enforce the Conference size limit would do little or no good; and to enforce a close season for spawning

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spawning fish to such an extent as to have any effect on their spawning would involve stopping the trade.

4002. Therefore, in your opinion, neither of those propositions is possible?—No.

4003. Have you any alternative proposition to make?—The proposition I made was to slightly raise the sizes of the fish, and especially to raise the size of plaice from 10 to 13 inches; because I believe that by so doing we should entirely keep the trawlers off the grounds where they do most harm.

4004. You would raise the size of fish from about 20 per cent. to 50 per cent. more than the trade are willing to agree to, would you?—I should not hesitate to recommend it even if they were only willing to raise the size of one fish, namely, the plaice. I believe a plaice would protect all the other kinds on those grounds, because there are not enough of the others to render it worth while for the boats to go and fish on those grounds if you eliminate the plaice under 13 inches.

4005. But apart from the question of raising the fish to what I believe to be an impossible limit in the view of the trade, is there any other proposition which you could make?—I do not know of any. I think some good might be done in the case of round fishes, by adjusting the mesh in such a manner as to allow them to escape. I have been making a number of experiments with meshes which are not yet complete. If one can devise a method by which the mesh could be kept open, I think it would do a great deal of good to the immature fishes, but it will not affect flat fishes to any marked extent.

4006. Has your attention been called to some evidence which was given by the Scotch witnesses, of a desire to extend the limits of the territorial waters to nine or ten miles; if so have you any opinion on that question?—It depends so entirely on what coast you are dealing with. The territorial limit is, so to speak, not a natural one, it depends entirely on whether the coast shoals gradually or is bold. It is not a question of distance from the land at all, but of depth of water. I have no doubt on the Scotch coast, where the Fishery Board people have been making observations, it would be useful to extend such limits.

4007. Supposing a ten-mile territorial limit was agreed upon by international agreement, would not the English trade suffer more than the foreign trade in carrying on their fishing operations?—I suppose it would, because it would keep them off this eastern coast, whereas there is, practically, nothing to catch within ten miles of their own coasts in most places.

Commander Bethell.

4008. You have made some investigations into the particular conditions of the Humber, have you not?—Yes.

4009. Would you tell us what food fish are chiefly found in the Humber?—Chiefly plaice and whiting, cod, soles, and lemon soles, and a few turbot and brill.

4010. Of a decent size, or small?—All small.

4011. Are they marketable?—There are a

Commander Bethell—continued.

good many marketable, but flat fish are marketable at about 7 inches.

4012. Is the Humber a breeding place for these fishes much?—It is not at all a breeding place.

4013. Do the young when hatched come into the Humber much?—Young plaice come in in enormous numbers, and dabs also, to a very large extent.

4014. In what months do they come in?—They seem to drop in at almost all months of the year, but the bulk of the plaice appear in the early summer.

4015. I see that February, March, and April, is the spawning time. Would the young plaice come into the Humber especially in March, April, and May, or something of that sort?—The earliest I find the young is in April.

4016. Are the young fish destroyed much by the fishermen in the Humber?—They are destroyed to a large extent by the men who work shrimp seines.

4017. Do the other fishermen who do not especially fish for shrimps and prawns destroy the young fish in large quantities?—No.

4018. That is to say, whatever destruction of fish takes place in the Humber, is due to shrimpers and prawners, is it not?—Not in any way to the prawners; they practically hurt nothing.

4019. Then to the shrimpers, is it not?—The shore shrimpers catch a great many, and the seine men destroy a great many.

4020. Is there a large shrimping industry in the Humber?—Not very large.

4021. Do you consider the destruction of these small fish by these shrimpers is of a serious and material character?—I think it is; it appears to me to be a perfectly wanton destruction.

4022. Will you explain to the Committee how they are destroyed by the shrimpers?—Very small plaice, and a certain number of soles, too, and a few turbot and brill, congregate on the extreme margin, in company with the shrimps, and the shrimp shove net is a wide net, which the man pushes along the bottom, and collects shrimps and small fish indiscriminately. They are then put in a basket, and some of the men who work the shove net sort the fish and throw them away into the water. Some do not sort their catch at all until they get home. The shrimp seine men pitch everything into a box, and never think of sorting it until they get home, so that all the small plaice they catch are destroyed.

4023. Up to what depth do they catch shrimps?—They go in about as deep as a horse's belly.

4024. Do not shrimps live in much deeper water?—Yes, but they do not trawl for shrimps very much in the Humber; they mostly trawl for prawns.

4025. Do the prawns live in such deep water that the trawling for them does not touch the small immature flat fish?—Yes, it only affects the immature flat fish very slightly.

4026. What depth of water do prawns live in? They seem to be most abundant in the Humber between $2\frac{1}{2}$ and 10 fathoms.

4027. Do not these small plaice, and so on, go there?—They mostly, according to my experience

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ence, prefer the shallower parts of the river, the extreme margin.

4028. Then at any rate do you say whatever harm is done is done by the shrimpers, and not by the prawn fishers, and that you are doubtful whether the amount of harm which is done is not very great?—I look on the amount of harm done as very great; practically, I suppose it is not very great, because the industry is not a very large one, but I think it is serious. I have given the figures of the catch by one of these shrimpers.

4029. When you talk of being serious, do you consider that the amount of small fish that are destroyed is serious in relation to the amount of fish that are reared in the Humber?—I think it is.

4030. Do you think some steps ought to be taken to stop that if possible?—I think so, if it was possible by any means to make the men return the fish to the water at once, the men would be no sufferers.

4031. They simply do not take the trouble to do it now, do they?—Some of them do not, especially the seine men.

4032. Are there any round fish caught in the Humber?—Yes; a great quantity of small whiting and cod in some years. They are principally caught by the prawn trawlers, but they are not injured, as far as I can find.

4033. Do they throw them back?—Yes. I have made experiments on the vitality of the round fish caught in that way, and I find comparatively few of them are necessarily killed by being trawled.

4034. That is not the case with the flat fish, is it?—Flat fish are even less injured; but so very few of them are caught.

4035. I thought the plaice were injured so much by the nets?—Not by the shrimp trawl. The shrimp trawl is necessarily down for a very short time, on account of the intricate navigation of the Humber, that there is never any great weight of fish or other matter in the trawl, so that they do not suffer much from pressure. I have found them extremely hardy on taking them to the aquarium afterwards. I have some that have been alive about eight months now.

4036. Does the Humber, in your judgment, play an important part in the supply of fish to the coasts, and to the waters round the country?—I believe it does.

4037. That is to say that, although the fish do not spawn there, the young fish come in at some time, remain in a certain time, and then work their way out into the deeper waters?—I think so. I think the Humber and neighbouring shallow waters supply all the in-shore grounds, as they are called by the fishermen, where plaice are found.

4038. When they have got their haul of prawns, how do the men treat them?—They first clear out all the fish and rubbish and then riddle them over the vessel's side, pass them through a sieve.

4039. Is that with the object of letting prawns of a certain size escape?—Partly that, and partly because they do not want the little ones; it is to get rid of the little ones; they are no use, and they like them to go back into the water.

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Commander *Bethell*—continued.

4040. Are you connected at all with the North Sea Oyster Fisheries Board?—No; I did some work for them last year, but I have no other connection with them.

4041. They have established a close time for shrimps on the Humber, have they not?—Yes, for the shrimp trawlers.

4042. And that period has recently been extended, has it not?—Yes.

4043. In your judgment was it reasonable and wise to extend that period, or not?—I think it was.

4044. There is no injury being done at present, is there?—None that I know of; I have not been able to observe any injury.

4045. Have you any knowledge of the fishermen along the coast of Yorkshire?—No.

4046. Or of their operations and industries?—No; I have no knowledge of my own.

4047. Will you tell the Committee what operations are being now carried on at the laboratory at Cleethorpes in the way of scientific experiment?—Some fish are being kept with a view to testing the rate of growth, and from time to time efforts have been made to hatch fish; and I carry on investigations with reference to economic fisheries, but very little has been done in the way of hatching, because the place is unsuited for it.

4048. What have you got there; some tanks?—Yes.

4049. Tidal tanks?—No, they are not tidal; it is a small aquarium, and the circulation of the water is kept up by a gas engine, but it is, unfortunately, open to the inspection of the cheap tripper, which rather prevents one doing any work there.

4050. Cannot the cheap tripper be excluded?—No; he pays for it.

4051. To come and see the place?—Yes; the thing is kept up rather largely by the contributions from the tripper. It belongs to the Marine Fisheries Society, and they kindly allow me to use the premises for such purposes as I can make use of them.

4052. Have you got any results that are likely to be useful from the experiments which have been carried on at Cleethorpes?—In the way of fish hatching?

4053. Either in the way of fish hatching or in examinations that you have made in the habits of fish?—I think so. All the work on which my opinion as to the size at which maturity was reached was done at Cleethorpes, and all the work which I have published in these journals has been carried on there too.

4054. The evidence on which these writings are founded is more from Cleethorpes than what you have got from accompanying the trawlers, and so on, is it?—No. I get my material partly on shore, and work it up at Cleethorpes in a laboratory there.

4055. Is it your opinion, after considerable experience, that more money could be usefully spent in developing the laboratory at Cleethorpes?—Not as a hatchery.

4056. Do you think that money could be usefully spent in trying to develop hatcheries on the coast?—I think so on the coast, but not so far up the estuary.

4057. Where would you establish hatcheries?

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[Continued.]

Commander *Bethell*—continued.

—I do not know the coast very well, but I believe Filey Brigg is a suitable place, though I do not know it personally.

4058. You were engaged, were you not, on the west coast of Ireland in connection with some inquiry that was held there?—Yes, I was assistant naturalist to the Royal Dublin Society Survey of the western fishing grounds.

4059. How long ago was that?—Two or three years ago.

4060. What were they inquiring into specially then?—They were trying to find new fishing grounds, and find out methods by which the existing fisheries could be developed.

4061. Had they come to the conclusion that the existing ones were being depleted?—No; very little fishing was done at the time we went there in the existing fisheries.

4062. Did you establish any results on that occasion which are useful in connection with the North Sea fisheries?—Chiefly for the purpose of comparison with the conditions in the North Sea. The conditions of the coast are rather different; it is a bold rocky coast with deep water close in, and on the North Sea coast the declivity is extremely gradual, and there is no deep water at all anywhere near it.

4063. There are more shallows, are there not, on which they fish off the coast of Ireland?—No, I do not think there are any grounds you could actually call shallows; they are generally spoken of as banks by the Irish fishermen, which means not a rising ground so much as a patch of clear ground.

4064. But they are generally in shallower water, are they not?—In comparatively shallow water, but the water is not usually more shallow than the water in the surrounding area.

4065. We have had evidence from two or three gentlemen who have been called here, that the great majority of the small flat fishes are on the east side of the North Sea, and I rather think you state in one of your papers that you are rather doubtful whether there is a migration of the fish from the east to the west side of the North Sea, do you not?—I may have said so, I do not recollect it; certainly, I do not think that fish cross so much from one side of the sea to the other as they cross from one side to the central regions.

4066. Do you think the east side of the sea, as a matter of fact, is much more inhabited by these small fishes than the west side?—I have no doubt of it.

4067. Then it would seem to follow that a supply must come across in some way, would it not?—Indirectly, I should say, all this eastern side supplied the whole of the North Sea to a large extent, but I do not imagine that a fish which hatches on the eastern side swims straight across; I do not think that is the habit of fish at all. I believe the silver pits, where soles sometimes congregate in great quantities in the winter, are largely supplied from the eastern coast.

4068. Have you made any experiments in Bridlington Bay?—No.

4069. Or at Flamborough?—I have been trawling off Flamborough Head in a Grimsby boat.

4070. Bridlington Bay is left open for trawlers, is it not?—I believe so.

Mr. *Buchanan*.

4071. Have you anything to suggest about the protection of enclosed areas. I think you said in your evidence that that would be the most perfect method?—Yes; but I think it would be difficult to carry it out on a sufficient scale to yield any appreciable result.

4072. Do you mean you would have to close so much?—Yes.

4073. The chairman of the Fishery Board suggested the North Sea might be divided into areas, parts of which might be closed at different seasons of the year; do you think that would do any good?—I have never considered the matter; I do not see that it is altogether practicable. I think it would do good to close certain grounds at all seasons of the year; grounds where there is a very large destruction of small fish; you might close them until the summer.

4074. Would not that be met by the extension of the territorial limit of 10 or 12 miles, which was also suggested by the chairman of the Scotch Fishery Board?—I do not think 10 or 12 miles would be far enough; the fish appear to extend for a considerable distance from the shore on the eastern side.

4075. Have you any suggestion as to the prohibition or regulation of certain methods of fishing, and the other subjects referred to, to make?—I do not think I have any suggestions to make which have not been already discussed.

4076. Are there any further suggestions you would like to make with regard to the Humber?—It occurs to me that if hatching operations should be established at any time, that the young flat fish, when turned out, would find their way to the shallow water, and, under existing conditions, would be instantly destroyed by the shrimp seiners. It seems to me that that is a matter which must be taken into consideration when speaking of hatching operations.

Commander *Bethell*.

4077. With regard to that, would the time when the shrimpers are at work be the time when these fish come in, mostly?—Yes; the shrimps and the small flat fish are unfortunately rather similar in habitat.

4078. It would be difficult, would it not, to make any rule by which you could ensure the shrimpers returning these small fish?—It would be very difficult to enforce any law made on the subject, I should say.

4079. Prohibition of sale would have no effect upon them naturally, would it?—No.

Mr. *Buchanan*.

4080. With regard to the limiting the size of the flat fish, would the limit you suggest of 13 inches for plaice and 12 inches and 18 inches for soles and turbot suit both the southern waters and the North Sea?—I have no knowledge of my own of the southern waters; but I believe it would not suit them as far as plaice are concerned.

4081. Would you want a higher limit, or what?—I think the plaice are altogether smaller in the southern waters, just as they are altogether larger in the Iceland waters.

4082. But there would be a great difficulty in having a different limit in different waters, would there

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Mr. HOLT.

[Continued.]

Mr. Buchanan—continued.

there not?—Undoubtedly there would be a difficulty; but it seems to me almost necessary that the two districts should be discriminated in that way.

4083. The men who are trawling the North Sea might go and land their fish in the southern districts, might they not?—Practically that would only be possible in the case of steam trawlers, and I fancy the sailing trawler would take care the steam trawler did not get that advantage over him. I believe the most efficient policemen in cases of that sort are those fishermen themselves, who are, for some reason, not inclined to break the law.

Major Jones.

4084. You have heard Professor Lankester say, have you not, that owing to their want of knowledge, fishermen mistake abnormally small fish and fish of other species for the young of a particular species?—That is so.

4085. But still, take for example plaice, there is a very large quantity of young plaice practically ruined by being caught when they are too young really to be of much value for good, is there not?—Yes; the fishermen make no mistake about plaice; it is mostly in the case of a small species of sole.

4086. Have you any remedy to suggest in respect of the catch of immature fish?—I do not see how you can prevent them being caught, unless you close the areas in which it is done, or prohibit their sale.

4087. You said something in respect of short hauls; that is to say, that in short hauls, the large percentage of the immature fish would live if thrown overboard?—Yes; on certain grounds near our own coasts, the bottom is very rough, and the fishermen necessarily work short hauls, and I know of men who habitually pick out all the small fish they get, and throw them overboard before attending to the other items of the catch.

4088. Do they do that now?—Some of them.

4089. Have you any idea, in your own mind, whereby the short haul could be made compulsory?—I do not see how it could be enforced without a policeman on each boat.

4090. You seem to disapprove of a size limit, unless that size in respect of plaice, for example, is 13 inches?—My reason is this: there are practically no fish above 13 inches; on the other hand, there are a great many above 10 inches. Now if these men were to be allowed to sell fish down to 10 inches they would continue to fish where they do now, they would pick out all the fish over 10 inches, and the rest would simply be wasted instead of utilised. They make longer hauls in these eastern grounds, because the ground is smooth and open, and they catch a very large quantity of fish in a haul as I understand, and probably a large number of the fish are dead when they actually come on board.

4091. So that they would die in your opinion, and would be wasted?—Yes; I think so.

4092. Are you in favour of promoting popular scientific lectures in connection with the colleges or otherwise, at the centres of fisheries?—I think it is advisable to teach the fishermen a little natural history. There are certainly several

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Major Jones—continued.

things which it would be useful for them to know, but I should say the lectures would require to be very simple, and if you tried to teach them a great deal you would be doing, probably, not much good. There are certain points on which they ought to be instructed for their own benefit.

4093. Do you approve of the idea, if it can be made practicable?—Yes.

4094. What class of boat do you recommend, if you have formed an opinion on the subject, for police and scientific purposes?—I should say a boat about the size of a steam trawler, and capable of steaming about 11 or 12 knots, and fitted up with a certain amount of sheltered accommodation for carrying on scientific observations. I have no particular views on the matter, but, from having been to sea a good deal, I notice that it is very necessary to have good shelter for carrying on one's work. It is very difficult to work on deck with the sea breaking over one.

4095. You have no concrete idea about this, and have no particular kind of thing in your mind, have you?—No.

4096. Did you give the Chairman your views, in respect of the meshes that you would recommend, after the experiments you have been making?—I am not prepared yet to recommend anything absolutely, but it seems to me that it is inadvisable to extend the size of the mesh. I do not think you can do any good in that way.

Commander Bethell.

4097. Why not?—Because it does not in any way prevent the net closing as it does now, unless you carry it to such an extent that you run the risk of losing adult fishes of valuable kinds.

4098. Does not the trawl rope constantly slack, so that the mesh is opened sometimes; that is rather my experience?—It must be so, to some extent, but still in a large mesh trawl on very clean ground you sometimes get a good number of small fish that could have swam three or four abreast through the mesh if it had been in any way opened. I have tried the square mesh against the ordinary diagonal one, and that, of course, does keep open a great deal more; but the disadvantage is, you require exactly double the thickness of twine to stand the same strain as the ordinary mesh, and that is a serious consideration for the trawlers.

Colonel Cotton-Jodrell.

4099. You said you had not concluded or perfected your experiments, did you not?—I have not concluded them, because I have not found a satisfactory solution of the difficulty. I have some ideas which I want to work out, but the difficulty is to get a boat in which to do it. Of course one cannot expect the fishermen to allow you to conduct experiments on their boats, because it is not profitable to them.

4100. Still my experience on the Lancashire coasts is, certainly, that they would welcome a proposal with regard to the size of the mesh and the material, so long as it could be kept open to let the small fish escape. It would be rather to their advantage, would it not, than otherwise?

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—I think

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Mr. Holt.

[Continued.]

Colonel Cotton-Jodrell—continued.

—I think so, but they cannot afford the loss incident to carrying on experiments on their vessels instead of catching fish, and we have no boat of our own.

Mr. Robert Price.

4101. I understood you to say that the sole, turbot, and brill being hardy fish, a considerable number of them would survive a trawl?—Yes.

4102. Assuming an ordinary trawl on the east side where the bottom is sandy, of six hours, what percentage of immature sole, do you suppose, would survive?—I do not know.

4103. Have you not made any experiments as to that?—I was unable to make experiments, I was delayed by illness, and one thing and another, from carrying out experiments which I wished to lay before this Committee, but I could collect such evidence, and hand it in to the Committee at a later date, if necessary.

4104. With regard to the limit of size, the limit you propose for plaice is purely international, the rest of the limits you propose have reference to the biological conditions, I understand?—Yes.

4105. You said you thought plaice would carry the rest?—I think so.

4106. That does not represent the mature female, but it represents the size which you think would be practicable, I understand?—Yes, it does happen to represent about the size of the mature male, but that is a coincidence.

4107. Did you hit upon that size because from practical experience you think that will be effectual?—Because I find the greater number of fish landed from those grounds are less than 13 inches. I have the figures here showing the total numbers of plaice landed in a month with the numbers above 13 inches and below.

4108. Are you going to hand that in?—Yes, I will hand it in. (*The Table was handed in.*)

4109. With reference to the close seasons, we had some evidence from a gentleman who spoke from a practical point of view, that although no doubt you are quite correct in saying a very long close season will be necessary to entirely protect the spawning, yet such a close season as a month would be of considerable value, and would very much increase the amount of spawn shed in the North Sea; do you agree with that?—No doubt with the species that happened to be spawning then.

4110. Would it not be possible, then, to have, for example, the month of February for plaice, which would be about the best month to take, and the month of June, say, for soles, during which time you could prohibit the sale of them?—That would mean that you return fish of those particular kinds in different months.

Mr. Robert Price—continued.

4111. But is it not a fact that on particular fishing grounds you get a fish of one particular kind in a very large majority; and it would not be worth while to fish outside the Dutch coast unless the men were allowed to sell soles, or off the Dogger Bank unless they were allowed to sell plaice?—There are a vast number of haddock off the Dogger Bank; the fish are so mixed.

4112. Do you not think that is a practical proposition?—I am afraid it is not, because so many fish might be destroyed, although they were not allowed to be sold.

4113. I gathered from Professor Lankester's evidence that he did not consider the scientific knowledge sufficiently exact to enable scientific witnesses to absolutely recommend legislation, considering the difficulties of the subject?—No.

4114. Is it your own feeling that you would prefer to investigate further before giving any recommendation?—I could only point to the facts that I have observed, and give my opinion as to what the drift of them appears to be. On a matter of legislation a scientist cannot expect to be a judge.

4115. But you can form your own ideas as to what means might be taken, cannot you?—Yes.

4116. Do I understand you would really, before definitely recommending or giving us your opinion that a state of things existed which required legislation, prefer having further investigation?—It seems to me that, as far as the North Sea is concerned, it would be advantageous, if any legislation can be devised, to have it soon.

4117. Do you think the conditions are sufficiently thoroughly understood?—I believe so. At least we have evidence of the great destruction now going on, and of the depletion that is always increasing.

4118. Do you think you have sufficient evidence of the habitat of the fish to enable one to judge of the advisability of a closed area?—I think so, undoubtedly.

Commander Bethell.

4119. Is it your opinion that this depletion of fish in the North Sea is chiefly owing to the steam trawlers?—I do not know it is owing chiefly to the steam trawlers, I fancy the sailing trawlers would have depleted it almost equally, only in proportion you would have to allow about six sailing trawlers for one steam trawler.

4120. Of course there is a tremendous ease given to the bottom of the sea by calms, and so on, when sailing trawlers are operating, is there not?—Yes.

4121. Do you propose to extend your investigations along the coast of Yorkshire?—I intend to when opportunity occurs.

Thursday, 15th June 1893.

MEMBERS PRESENT:

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr Harry Foster.
Mr. Furness.
Major Jones.

Mr. Kearley.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.

Mr. MARJORIBANKS, IN THE CHAIR.

Mr. ERNEST W. L. HOLT, re-called ; and further Examined.

Chairman.

4122. YOU have one or two papers which you would like to hand in, I think, for the information of the Committee?—Yes. (*The papers were handed in.*)

4123. Do you also desire to make a statement with regard to the record of some fishing operations on board of one trawler?—Yes. This record was kept by the crew of the steam

Chairman—continued.

trawler on the Schiermonnikoog and Borkum grounds in May 1893. In 13 hauls, 141 baskets of plaice were caught. Of these, 93½ baskets contained fish from 7 to about 13 inches, which were landed at Grimsby; 40½ baskets of fish, from 4 to 7 inches, were thrown overboard, being too small for market.

Mr. JOSEPH THOMAS CUNNINGHAM, M.A., called in ; and Examined.

Chairman.

4124. ARE you one of the assistant naturalists of the Marine Biological Association?—Yes.

4125. Your field of work, I believe, has been on the South Coast?—Yes, in the neighbourhood of Plymouth.

4126. How long have you been making observations in that district?—Since the year 1887.

4127. Were you acquainted with that district before that at all?—Very slightly ; scarcely at all.

4128. Are you in a position to give the Committee any information as to whether there has been a falling-off in the catches of fish and the fish supply generally on the South Coast?—That is rather a complicated question. On the Plymouth grounds proper, which are close to Plymouth, in the neighbourhood of the Eddystone, I am told by the fishermen and fish traders that there has been a diminution, chiefly in soles ; but on the other hand they say there has been an increase in lemon soles, and that there has been no great decrease generally. Then the Plymouth trawlers fish also on the Mounts Bay grounds, which are to the south of the Wolf Rock off the coast of Mounts Bay, some distance out, in between 30 and 40 fathoms of water. Those grounds have become less productive in soles to a certain extent. Then there is also another ground on the north coast of Cornwall, between Trevoze Head and Land's End. Those grounds have only been worked, I think, for about six

0.93.

Chairman—continued.

years at the utmost, and they have been worked very largely by east coast boats, and to a less extent by Plymouth boats. At first they supplied a great number of soles, which to a certain extent have fallen off.

Commander Bethell.

4129. Have you steamboats fishing there?—No steamboats that I am aware of have fished there.

Chairman.

4130. Speaking generally, would you be of opinion, from the evidence which you have been able to collect, that there has been such a depletion of the fishing grounds with which you are acquainted as to justify legislative interference?—I think that would depend on the legislative interference proposed.

4131. Does it justify any legislative interference in the first instance, do you think?—I am not sure that any legislative interference would aid in replenishing the grounds. At least, that would depend on the legislation proposed as a remedy.

4132. Then may I take it that you are doubtful whether Parliament could do anything by regulations or otherwise to improve the fishing on the South Coast?—I should like to be asked about the destruction, or wasteful destruction, of small fish.

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4133. I will

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Mr. CUNNINGHAM.

[Continued.]

Chairman—continued.

4133. I will ask you that, but I want in the first place to get an answer to the questions I have put. I want to know whether we should be justified in taking it that you have grave doubts whether any good can be done by legislative interference by Parliament?—I am afraid I cannot answer the question in those general terms. I do not see how I can. I could give particulars of things which I think ought to be remedied. I have very grave doubts, if I may answer the question in that way, whether any interference with the fishing of trawlers in the extra-territorial waters could be of any benefit.

4134. So far as extra-territorial waters are concerned, do you think Parliament would leave the fishermen to themselves?—Yes.

4135. But with regard to the territorial waters, do you think that there are regulations which might be made, and which would be of service?—Yes, I think so; but it seems to me, in the first instance, that they can only be made by the local committee, as far as I understand the law.

4136. But Parliament has power to override local committees. What are the particular points with regard to fishing in territorial waters to which you think Parliament should direct its attention?—There is a destruction of undersized fish by seines and shrimpers, which, in the neighbourhood of Plymouth, is not very extensive; but in the neighbourhood of Brixham it has been long the custom to fish in shallow territorial waters by small trawlers, who do not go very far away from their own ports.

4137. Sailing boats?—Yes, sailing boats; and I have evidence that they destroy a large number of undersized plaice; but you may be aware that the Devon Committee has already promulgated bye-laws to prevent them fishing in a great part of the territorial waters at all.

4138. With these small trawls?—Yes, with these small trawls.

4139. Is that regulation cheerfully accepted by the fishermen?—I am not aware; I think there is a certain amount of opposition to it, but it seems to have been submitted to at present, although the bye-law has not yet come into force. I understand the trawlers of Brixham and Plymouth, although they opposed it at first, have submitted to it as cheerfully as they can. They have accepted the fact that it will come into force without organising any further opposition.

4140. When will it come into force?—I do not know; it is still under the consideration of the Board of Trade, I believe.

4141. Is it rather with regard to prohibiting certain modes of fishing that you think we should interfere?—I do not feel qualified to propose legislation, but I could suggest the measures which I think would be effective. It seems to me that the only way, as far as that neighbourhood is concerned, is to put a stop to trawling in territorial waters.

4142. Would you prohibit all trawling in territorial waters?—Yes, all trawling for fish in the ordinary way.

4143. All beam trawling do you mean?—No, I do not think I would prohibit shrimping absolutely.

Chairman—continued.

4144. Would you prohibit horse trawls?—There are not any on the South Coast; I have never seen any. There are small seines which are very destructive. My idea is to prohibit the trawling of large boats with trawls of over 25-feet beam which are intended to catch fish in territorial waters. My own opinion is that the destruction of fish by other modes of fishing could be prevented without prohibiting the fishing altogether absolutely, by imposing a size limit and having penalties imposed for the destruction of those which were not marketable.

4145. Would you propose to impose this size limit with regard to fishing in territorial waters only, or would you apply it to fish caught in extra territorial waters?—No, in territorial waters only.

4146. Then may I ask again how you would enforce any such regulation as to prohibiting the sale and landing, or the capture of small-sized fish in territorial waters, and yet allow these small-sized fish to be caught in extra-territorial waters?—I think it is easy in any port or village where fish are landed to find whether they are landed from big trawlers or from boats engaged in other modes of fishing.

4147. Then, do you seriously propose to this Committee that the big trawler should be allowed to catch undersized fish, and that the small long-shore fishermen should be prohibited from doing so?—No, not exactly that, because my experience is that in extra-territorial waters the undersized fish are not caught on the South Coast.

4148. None?—I have a paper to which I wish to refer.

4149. I should like first to ask you what limit of size do you think would be suitable for the purposes of the South Coast, taking the various sorts of fish?—The average size at which the plaice spawns on the South Coast I find to be 12½ inches. This appears at page 2 of the summary of evidence offered by the Biological Association, and the basis of it is to be found on page 17 of the paper marked D, which shows the examination of the fish during the spawning period, showing that none are immature when more than 14 inches in length, and none are mature under 9 inches, very few females under 11 inches.

4150. Do you think for plaice 12½ inches would be a proper size?—Yes.

4151. What size would you say for the sole?—Twelve inches.

4152. What for the turbot?—About 18 inches. I have not examined a great number of turbot, but I think 18 inches would be about the average size at which they spawn.

4153. Do you also tell us that on the South Coast the trawler does not catch any plaice under 12½ inches, any soles under 12 inches, or any turbot under 18 inches?—No. If you will refer to D, page 18, you will find from the plaice that I have examined from trawlers I have not estimated the percentage under 12 inches, because that was not in any proposition published. But under 10 inches, which was proposed by the fish trade, the destruction I find to be about 8 per cent. by the big trawlers. It was six out of 70 examined, which is equal to 8 per

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Mr. CUNNINGHAM.

[Continued.]

Chairman—continued.

8 per cent; whereas I find from the plaice landed from seines by the Saltash men, on examining a total number of 39, they were all immature, and all, except one, under 10 inches.

Colonel Cotton-Jodrell.

4154. Were those landed by the seines?—Yes.

Chairman.

4155. But still, do you not think that if you are going to impose a size limit for any particular class of fish, that that size limit should apply generally, and not specially only to one class of fishermen?—The reason I do not think so is, that if a limit is imposed on the deep sea trawlers it would not be carried out. My experience of trawlers is that they cannot be trusted to throw the fish overboard alive, and that, in most cases, if they tried to do it, it would be impossible. But, on the other hand, if the fishermen who fish with seines and shrimp nets are compelled to throw the fish back, they will throw them back all alive. They are not obliged to destroy them; the mode of fishing does not kill the fish.

4156. Do you mean to say, as a practical man, that a body of fishermen would stand by quietly and see landed by big trawlers a class of fish which they themselves are prohibited from landing?—The number landed by the big trawlers would be extremely insignificant in comparison to their total catches; and, on the other hand, the compensation would be very obvious, viz., that the big trawler is not allowed to fish in territorial waters at all. The big trawler would be subject to the restriction as to where he is allowed to fish, and the inter-territorial man would be subject to the restriction as to the size of fish he is allowed to catch.

4157. Yet to take a return which was given by your colleague, Mr. Holt, this morning, out of 141 baskets of plaice caught and landed at Grimsby, he tells us authoritatively that 93½ baskets contained fish of from 7 to 13 inches and 40½ baskets of fish from 4 to 7 inches were thrown overboard, being too small for market. That is your own colleague's description of the catches on board a trawler?—There is nothing surprising as to that, because the eastern side of the North Sea is a ground presenting special conditions. I am speaking of the South Coast.

4158. But still it shows, does it not, that a very considerable number of small fish are caught by the trawlers?—In that particular place. Your questions, I thought, referred to Plymouth just now.

4159. But how can Parliament impose a size limit such as is now proposed by you if it does not make it universal to all the fishermen round the kingdom?—May I point out that the imposition of a universal limit, such as 10 inches, would not prevent the fishing on the eastern grounds, but would only increase the destruction; that is to say, cause the fish to be killed, and not brought to market; there would be no advantage in that.

4160. But your proposal is to propose a limit on one class of fishermen, and that the poorer class of fishermen, is it not?—That is done already by the Lancashire committee.

4161. However, your proposal is that in the territorial waters on the South Coast a limit of 0.93.

Chairman—continued.

size should be placed on plaice, sole, and turbot, and in that particular alone should a limit of size be imposed in that part of the country. Now do you think that anything can be done by way of regulating the size of mesh of these nets?—I think it is not very practicable to do so, because the fishes differ so much in their maximum and average size, and the size at which they reach maturity. A size of mesh which would allow certain soles to escape would not be of any very great benefit to turbot, the young turbot would not escape.

4162. With regard to round fish, would you propose any restriction?—No, I do not wish to propose any restriction as to round fish, because I have not found that it is possible to return round fish to the sea, after they are captured, alive.

Mr. Buchanan.

4163. Do you limit your restriction to these three fish and the territorial waters?—Which fish?

4164. The plaice, sole, and turbot?—And brill. I should like to point out that I have a strong opinion as to the restriction on the size of lemon soles, because I find they are not taken in territorial waters at all.

Chairman.

4165. Do you think anything could be done at all in the way of fixing close seasons?—For all trawling?

4166. Do you think that such a proposal as to fix close seasons during the spawning time, or at other times, is practicable as far as the South Coast is concerned?—I do not think it possible to fix any close season for beam trawling in the open sea at all.

4167. What do you say with regard to territorial waters?—I think I should prefer to leave it open to consideration in territorial waters, whether certain grounds might not be closed altogether, or certain kinds of fishing entirely stopped, but I would not suggest that as a general proposition. I think there should be regulations for special places under special considerations.

4168. Do you think powers ought to be given to special district committees to close at their discretion parts of the territorial waters against any or all sorts of fishing?—Against any or all, just as they think necessary.

4169. Would you give them the fullest power in that way?—Yes.

4170. Have you any information with regard to the spawning grounds on the South Coast?—I have not found that the spawning grounds are very definitely limited, but they are generally limited according to the habits of the fish. I find that plaice spawn nearer the shore, in shallower water, than lemon soles; and I find on grounds such as those on the north coast of Cornwall, and the south of the Wolf Rock, where soles are usually plentiful, that the soles that are caught there in March and April are nearly all spawning.

4171. Then you do not think it would be practicable to adopt any rules or regulations to preserve spawning fish, do you?—No; I have not heard of anything or thought of anything which would make that practicable.

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4172. Do

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[Continued.]

Chairman—continued.

4172. Do you think that anything in the way of fish culture would be practicable on the South Coast?—Yes, certainly; I think it would be practicable, and ought to be tried far more than it has been.

4173. For what kinds of fish?—For all kinds of flat fish and a great many round fish. I do not know of any fish which cannot be hatched artificially; there is a certain amount of difficulty with soles which does not occur with other species, but I think it is a difficulty which might be got over. There is a difficulty in fertilising; the males are plentiful enough, but it is difficult to fertilise the eggs artificially at sea. But I believe that, under proper conditions, very likely the soles could be kept in captivity until they spawn. I think, however, it would be advisable not only to hatch the fish and turn the fry out, but to rear them. I have been making for years experiments in rearing young fish, and this year I have succeeded better than I have before in feeding the young fish. I did not rear any on account of an accident, but they fed heartily for about ten days, and seemed to be growing quite normally. I think that with proper and sufficient means, and a proper place, it would be quite feasible to rear young fish from the egg upwards, and either to replenish the grounds or rear them for the market as in a farm.

4174. Would you think that the standard adopted by the Sea Fisheries Conference would be of any use on the South Coast?—The standard of 12 inches for turbot and brill, 10 inches for plaice, and 11 inches for lemon soles, do you mean?

4175. Yes.—Leaving out the lemon sole, I think those standards would have the effect I have already suggested. They would have very little effect on the large beam trawlers. Twelve inches for soles would affect them more than the others. The 12 inches for turbot would, I think, affect them not at all. The ten inches for plaice would cause them to reject about 8 per cent. of the plaice they catch. That is my experience.

Mr. Mallock.

4176. The average is ten inches for soles, is it not?—Then that would affect them still less. I should like to point out that that recommendation is rather remarkable about lemon soles, because the lemon sole is a much smaller fish than the plaice, and spawns at a much lower size on the South Coast, and yet the limit is placed higher.

Major Jones.

4177. You told us that the quantity of fish caught has not diminished?—I should like to say with regard to that that I have not collected any statistics privately on my own account, but I have made a careful examination of the statistics which are officially published, and which are in this paper D. I should like to suggest that in order to get any accurate information as to the productiveness of particular grounds we must have more detailed statistics than we have here. I should like, also, to draw the attention of the Committee to a separation I made in the official statistics, which, I think, is very surprising, between drift net fish and bottom fish. That

Major Jones—continued.

will be found on pages D 4 and D 5, and for the total of all coasts you will refer to D 2. This drift net fishing, I should explain, means that I have simply taken out the special figures for mackerel, herrings, and sprats on the East Coast, and, on the other coast pilchard as well. I have added these together as drift net fish, and they show a considerable diminution, whereas the remainder, which consists chiefly of trawled fish, shows an increase in the years from 1886 to 1892.

4178. Assume for a moment that the quantity is not diminished, is the average smaller than it was ten years ago, say?—I have no evidence that it is.

4179. Is it your opinion that it is, or that it is not?—I have not an opinion upon it. I have not worked at the subject, as I say, from a statistical point of view, myself. I have simply taken the statistics that are published.

4180. What is the source of your statistical information?—The statistics and memoranda of the Board of Trade.

4181. What percentage of immature fish thrown overboard would, in your opinion, live?—I think of the trawled fish thrown overboard very few of the small plaice would survive, and rather more of the soles, but not all. Of the turbot many might survive, but what I wish to point out about it is that the fishermen, in my experience, having been out on trawlers a great deal, do not attend to the fish very often until they have been some long time on deck, especially in rough weather, and when the trawl is torn. They leave the fish lying in a heap for some time before they pick them out, and then it would be much too late to throw them overboard. Then if they were compelled to throw them overboard there would be no means of seeing that they threw them overboard at the right time, and they would be more likely to spend time in taking care they did not throw away what they might keep than in taking care to keep the fish alive which they had to throw away.

4182. It has been stated that in short hauls the percentage which would live would be a large percentage; have you any suggestion to make about that?—The shorter the haul the larger the percentage that would survive, certainly.

4183. Have you anything of a practical nature to suggest with a view to saving the lives of these immature fish?—My suggestion is simply that the trawlers in the extra-territorial waters should not be compelled to throw the fish overboard at all. I think it would not be a practical measure.

4184. Then I understand that you are in favour of giving almost absolute power of control to local bodies?—As far as the territorial waters are concerned.

4185. Do you know at the present moment that they have power, but that they are subject to the veto of the Board of Trade?—Certainly.

4186. Are you in favour of giving these bodies absolute control without the veto?—No, I think the veto should be maintained. I think the central body should undertake investigations, and be composed largely of experts.

4187. And that their judgments should be passed upon scientific inquiry into the question?—Yes, I think when the Board of Trade makes an inquiry it should not confine itself, as it is obliged

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[Continued.]

Major Jones—continued.

obliged to do now, by its present constitution, to hearing oral evidence, but should send experts to examine the question from a scientific point of view, by making a survey of the grounds that had to be considered and the mode of fishing that was in question.

Commander Bethell.

4188. Are you inclined to think that instruction amongst these fishermen would have a good effect in inducing them in their own interests to be more careful about the way in which they throw overboard the immature fish which are taken?—Yes; certainly I think it is very desirable they should have instruction in the practical natural history of the fishes.

4189. Have you remarked any indications of willingness on the part of fishermen to receive such instruction?—Yes; I have given lectures in Essex and in Plymouth, and although in Plymouth the eagerness was not very great, there was a certain amount of interest shown by the fishing classes. In Essex the interest was very keen indeed, and my lectures were always well attended by fishermen.

4190. I suppose your lectures dealt with practical science?—Certainly, a simple history of the fish, its breeding and growth, its food, feeding, and the places where the various stages occur described in such a way that fishermen could understand it without special education.

4191. I suppose fishermen are remarkably ignorant about fishing, are they not?—They are ignorant about fish. They believe the wildest stories and disbelieve the commonest facts.

4192. You said just now that the spawning ground for the different fishes, you think, are different, and that different fishes do not spawn on the same ground?—There is a difference with regard to the depth, and distance from shore, but I have not found any definitely limited spawning ground for any particular kinds of fish.

4193. Which of the flat-fish spawn in the shallow waters?—Flounders and plaice. Soles spawn in rather deeper water, and lemon soles furthest off.

4194. A witness has told us that he had never seen any spawn which had not been fertilised at sea. I understood you to say just now that it might easily happen that the spawn might not be fertilised?—That is only in dealing with the spawn artificially.

4195. You said there would be a difficulty in fertilising, did you not?—In fertilising it artificially.

4196. We were informed that fishermen do it at the request of scientific gentlemen without any difficulty?—In most cases they can, but not in the case of soles. But that does not imply that any soles eggs are unfertilised in natural conditions when left in the sea.

4197. Do soles, like plaice when they are out of the egg, come into the shoal waters?—I have found a certain number of young soles, some only as large as my finger nail, when they are only just transformed from the pelagic or floating condition, in shallow water, but only in small numbers. They are also taken in comparatively small numbers in shrimping. I have a paper here

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Commander Bethell—continued.

by Mr. Holt, which has been placed before the Committee, and I should like to refer to it as to the proportion of young soles and young plaice which are taken in inshore waters. In this paper A., page 387, there is an account of the fish taken in one tide by the shore-net shrimping, and the plaice are 896, $1\frac{1}{2}$ to $4\frac{1}{2}$ inches long, and common soles only four. That is about the proportion in which they are usually found in the shallow water, and I gather from that that the young soles cannot be exclusively confined to shallow water, as the plaice usually are.

4198. There is no doubt that quite young plaice are confined to shallow water?—Yes.

4199. In answer to a question by the Chairman just now, I think there was a little confusion in talking about the territorial and extra-territorial waters, because you said that you had excluded the North Sea altogether in your answers?—Yes, because the great destruction of plaice on what the fishermen call the eastern grounds takes place in extra-territorial waters, and the proposals made for restriction were chiefly to prevent that destruction. It is clear, I think, from the evidence that such a limit as 10 inches for plaice will not prevent the fishermen fishing there, and will only cause them to return the smaller fish, which in most cases will not be alive. On the other hand, if a much higher limit, such as 14 inches for plaice, were suggested, it could scarcely be applied to the South Coast, as it would exclude then 50 per cent. of the plaice taken on the South Coast.

4200. How do you account for the fact that has been put in evidence by two or three witnesses, that although the fish on the North Sea banks has decreased enormously, and perhaps in the eastern waters on the South Coast they have hardly diminished appreciably?—I have not any figures which show the decrease in the North Sea. I do not know much about it.

4201. I think every witness who has spoken to the point has said that on the Dogger and thereabouts the fish are practically fished out, so far as marketable fish are concerned?—That is scarcely correct as to soles. The weight of soles landed on the East Coast in 1892 was as great as in any year except 1886 and 1887.

4202. It is true the weight is as great, but the size of the individual fish has become so extraordinarily small. But, on the other hand, the witnesses from the South Coast said there has been no appreciable diminution in the weight or size of the fish?—That is what I am told. I have no information to give upon that, except to say that these things should not be left to the evidence of fishermen, but should be ascertained and recorded in an accurate way.

4203. It is the fact, is it not, that there is no steam trawling on the waters to which you have referred?—I think it is. There have been steam trawlers, and there are now, fishing at Plymouth, but it is their custom to go a long way to sea right to the coast of the Bay of Biscay.

4204. Are you inclined to think that this extraordinary difference may be due to steam trawling or not?—No; I am not. I have not much information about that. I should like to point out that we have not any figures as to the

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Commander *Bethell*—continued.

increase of steam trawling, or decrease of sailing trawling which one can much use.

4205. What part are you speaking of now?—I am speaking of the numbers of boats and tonnage published in the annual statement of navigation for England and Wales, and the only figures we have concerning steam fishing vessels is a table of those registered under the Sea Fisheries Act and the Merchant Shipping Acts, but there is nothing to show whether that includes all the steam-fishing vessels of the kingdom; there is nothing to show what vessels are registered under the Merchant Shipping Acts, and there is nothing to show whether they are trawlers or drifters.

4206. But the fact remains, by those statistics, that since 1884 the steam trawlers have risen from nothing to something like several hundreds, and the evidence so far has been that there are no steam trawlers on the South West or South Coasts?—There are none belonging there, but there are some fishing there. But, on the other hand, the tonnage of sailing vessels has very largely decreased, especially since 1886. I have the figures here.

4207. But it has been in evidence that one steam trawler equals something between three and six sailing trawlers?—That is the opinion of those engaged in the trade, but there are no figures to show how much fish is landed from one or the other. I think these things should be dealt with by figures collected in an accurate manner.

4208. Are you inclined to think that from such figures as we have large steam trawlers are, it the nature of things, very destructive?—I think they catch a great many more fish in proportion to their size, but I do not think they are more wasteful in their fishing than sailing trawlers. Then we have no evidence before us from these statistics to show that the produce has fallen off in proportion to the catching power.

4209. We have no evidence to show that the produce has fallen off in proportion to the catching power, but we have evidence to show that the size of fish taken is smaller than it used to be?—I have not any such evidence.

4210. But surely there have been statistics put in?—I have not had any in my hands; that may have been stated to the Committee. There are no figures of that kind available to the public, so far as I know.

4211. No; but all the evidence has been that the size of fish has decreased in the North Sea, and that seems to point to the fact that if the size goes on decreasing it must evidently deplete those banks still more than they are, must it not?—Yes; but I have no opinion to offer on that.

Colonel *Cotton Jodrell*.

4212. What size of mesh do the big trawlers use on your coast?—It varies a good bit at the cod end; usually it is not less than $1\frac{1}{2}$ inches square, that is $1\frac{1}{2}$ inches each side.

4213. That would make what is called a six-inch mesh, would it not?—Yes, four times one and a-half.

4214. That is in the cod-end?—Yes. Of course the mesh at the top of the net is much larger; that is three or four inches.

Colonel *Cotton Jodrell*—continued.

4215. I suppose we may take this document and consider it as part of your evidence; and I see you say, "I find that the big trawlers take no plaice, soles, turbot, or brill, which are too small for the market." Is that your opinion?—Yes; that applies to trawlers fishing out of Plymouth only.

4216. The people who use these nets of which I have been asking you?—Yes. Further on I state something about the habits of the trawlers at Brixham, which is different, that is on page 2.

4217. Do they catch these small immature fish?—Yes.

4218. Do they use the same mesh?—I am not quite sure. I think the mesh is a little smaller.

4219. But with this six-inch mesh, is it your opinion that the big trawls take no plaice, soles, turbot, or brill, which is too small to be marketable?—That is my experience.

Mr. *Mallock*.

4220. You said that there were no reliable statistics as to the size of the fish taken, and they ought to be more accurate before you can work on them at all?—Yes.

4221. How do you suggest they should be got?—I think every skipper might be made to keep an account of the fish he lands.

4222. Do you think that would be practicable?—I think so.

4223. Would the men in the small boats do the same thing?—I do not see why they should not.

4224. But at present there is great doubt as to the accuracy of the real amount of fish landed, is there not, and as to whether the statistics are accurate or not?—I do not know very much about them; of course, I am only, in that respect, one of the general public, but all I know about it is that they are collected at one port by methods which cannot be very accurate. It is simply an estimate made by the eye.

4225. With regard to the small fish at Brixham, plaice of 7, 11, and 12 inches long, do you consider they are of any use for food?—Yes; they fetch a fair price in the market; they are all sold.

4226. Would it be a great loss to the fishermen if they could not sell them?—As far as that goes, these particular trawlers are now to be excluded, by the bye-laws adopted by the Devon Committee, from the grounds where they catch those fish, so that preventing their sale would scarcely make the matter any worse for them.

4227. Do you think they would not catch any of these fish?—Not so many.

4228. They are not excluded from the territorial waters, as you suggest, by law?—No; but from a very large portion of the territorial grounds; not from all of them. Of course, if there were a restriction as to sale up to 10 or 11 inches, it would take off still more of the fish that they now bring to market.

4229. You suggested that it should also be prohibitive to take these small plaice and soles in territorial waters by other modes of fishing, did you not?—Yes.

4230. That is done now, is it not, notwithstanding the trawlers?—No; it is not done now
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Mr. Mallock—continued.

at Plymouth. Plaice from seven inches upwards, and soles from six inches upwards, are landed and sold in the market at Plymouth, caught by seines.

4231. The seines are not excluded now, are they?—No, there is no restriction upon them.

4232. But the trawlers are?—The trawlers are to be.

4233. So that the destruction of these fish is still going on by the other mode of fishing?—Yes; but the other mode of fishing is not so extensive, it is on a much smaller scale.

4234. You say at the top of E. 3 that you would not recommend that large trawlers should have to throw their fish overboard. What would they do with them if they caught these smaller fish?—If they were prohibited from selling them?

4235. Yes?—I think they would try to evade the law as far as they could.

4236. In what way?—They would eat them themselves, or give them away, I think.

Chairman.

4237. May I ask if you have thought how these regulations could be enforced in territorial waters?—By superintendents and bailiffs.

4238. Do you think that each district fishery committee should appoint their own police, so to speak, and have their own staff?—Yes; and my own private opinion is that each district committee should have a qualified chief officer, such as the Lancashire Committee has now; but there is no compulsion upon them to appoint such an officer. Many of them have no officers at all. In Cornwall they do very little supervision, and pass no bye-laws.

Mr. Mallock.

4239. Do you think this bye-law of the Devon Sea Fisheries Committee is a satisfactory one?—I almost think myself that it is too limited; that it should not be limited to defined lines, but should be extended to the territorial line altogether, three miles from the shore.

Major Jones.

4240. I want to direct your attention to an answer you gave in respect of the Board of Trade. You are, I understand, in favour of scientific investigations being made by

Major Jones—continued.

the Board of Trade to form the basis of their action and authority. Now, in order that the fishermen may appreciate and accept this control by the Board of Trade, would you be in favour of extension lectures among the men in the centres of the fisheries, so that they might appreciate the subject?—Yes, I am very much in favour of those.

4241. Have you anything to suggest about that to us?—They are being organised to a great extent now by the local fisheries committees, in co-operation with the county councils. I do not wish to suggest that anything further should be done; I think they are doing as much as they can.

4242. In what counties is that being done?—In Essex; to some extent it has been done at Plymouth; it has been done to a large extent by the North Eastern and Northumberland Committees; and I believe it is going to be done by the Lancashire Committee.

4243. It is done at the cost of the county council, is it not?—Yes.

Chairman.

4244. Have you conducted a good deal of fish rearing experiments yourself?—Yes, at Plymouth.

4245. Have you reared young fish up to a certain stage?—I have reared them from a very young stage, when about half-an-inch long, up to about three or four years.

4246. But the ones you have hatched you have never taken over the limit stage, I suppose?—No, not absolutely; and I should like to say that I do not agree with the opinion that the natural food is the only way of feeding these young fish. In fact, I think, if any success is to be attained in rearing fish, it must be by artificial feeding. The experience of Captain Dannevig is that a very small proportion survive when they get their natural food.

4247. The critical period, I suppose you say, would be in getting the young fish over the rudimentary stage to its fully developed form?—Yes, that is the critical period.

4248. Do you think it would be possible to overcome the difficulties connected with that?—Yes, I think it is very nearly done. I hope to do it either this year or next spring.

Mr. GUNDER DANNEVIG called; and Examined.

Chairman.

4249. HAVE you been employed by the Norwegian Government to superintend certain fish hatching operations on the Norwegian Coast?—Yes.

4250. What sort of fish did you specially turn your attention to?—Cod, and flat fishes, and lobster.

4251. What flat fishes?—The flounder and the dab.

4252. The flounder and the dab amongst flat fishes, and the cod and lobster?—Yes.

4253. Was money supplied by your Government for this purpose?—No, not at the be-
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Chairman—continued.

ginning. We had help. I started the question myself, and as fisheries were decreasing very much, we had to do something; I got some private money, and then we got aid from the Government. We then built a small hatchery, and worked on that for four years.

4254. Can you tell me what amount of money you spent per year on that hatchery?—We spent about 500*l.* a year on the hatchery.

4255. Of that, how much did the Government supply?—The Government now supplies the most part, almost all of it; but at the beginning we got most of the money from private people.

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4256. I suppose

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Mr. DANNEVIG.

[Continued.]

Chairman—continued.

4256. I suppose it was rather on account of the falling off of the cod fisheries that this idea of yours was started?—All our fisheries are falling off, even the mackerel fishing. For the ten years that I have been working on this matter, I have been trying to get information everywhere, and it seems that all people who know anything about fish agree that it is falling off very rapidly.

4257. Now with regard to cod, let us have your experience of fish hatching?—The first year we hatched 5,000,000, and that cost about the same as when last winter we hatched 240,000,000. Now if our hatchery was worked to the greatest extent, and we took only into consideration the expenses for the cod hatched, the cost would be about a penny for 10,000, or, say, 8,000.

4258. How soon do you turn these little cod into the sea?—At about four or five days old.

4259. Is that after the yolk bag has been absorbed?—No, four or five days after they come from the egg. Of course the yolk bag then begins to be smaller, and they want food.

4260. Have you been able to trace any result from your operations?—Yes, we have had very good results so far, but our hatchery is certainly a small one yet.

4261. I mean in the way of increased catches of fish afterwards?—First of all I have reared the fry in a pond attached to the hatchery, and thereby proved that these young hatched cod can live. That is the first thing. Then we put out once a portion of fry in a little basin that was almost closed up altogether, and the people round there afterwards sent me a letter letting me know that they had not seen so many cod there for 50 years as there was for two or three years after I put the fry in.

4262. What size were those cod at that time? They would be about five inches in the fall of the year, and about eight inches in the spring, and then they catch them.

4263. As soon as that?—Yes, at eight or nine inches. But after that we put out fry for a larger distance, and I got a letter from the people in that district, which was sent to the Government and has been printed, saying that they had not seen so much cod there for many years as they had for two years, that is to say, the year after I put out the fry and the year after that again; and, what is more, they had got cod of a colour which they had never had there before. Now the colour of the cod is different in the different fjords; it is not the same colour as that you catch in the North Sea; that is all grey cod, but we have the red cod, a dark grey cod, and a yellowish grey cod. We can see from our experience what place the cod comes from; but here they have cod which they had never seen before, and many of them. The light grey cod never occurs in the fjords, so that seems to prove that the cod I put out there were living and were increasing.

4264. Was it from the big sea cod you took your eggs?—I take all sorts, according as I can get them, so I have quite a mixture; but certainly the fishermen there will only pay attention to the cod which is of a different colour from what they used to get.

Chairman—continued.

4265. Do you consider it desirable to catch cod so small as eight or nine inches?—No.

4266. Has it ever been proposed in your country to prohibit catching fish so small as that?—Yes; I proposed it in 1885 or 1886; the Government did not take it up then, but they took it up last year.

4267. Have they passed any law prohibiting the capture of small cod?—No, but they are going to.

4268. What limit of size do you think they will place on cod?—I cannot say what they will do, but I would advise about 11 inches. But I must here say that our cod in the fjords is not the same as in the North Sea. I have had cod about 11 inches which is mature, and I have had cod about two feet or perhaps 30 inches, the deep sea cod, which was not mature.

4269. Then your experience with regard to deep sea cod would agree with that of the Marine Biological Association, which is that the deep sea cod spawns at about 25 inches?—I should think so.

4270. But your fjord fish spawns at about half that size, do they?—Yes.

4271. With regard to the breeding of lobsters, have you been successful in that too?—I think I was the first who tried to take the eggs from the lobster and hatch them, and last summer I hatched 95 per cent., not to say 100 per cent., almost all of them lived. But the year before I do not think I had 5 per cent that lived; 95 per cent. died. There was a difference in the temperature of the water, in its specific gravity, and other things, with regard to the hatchery itself; but it seems now that the thing can be done, and can be done easily.

4272. Have you turned out many lobsters?—No.

4273. None?—It has only been a small experiment to find out the methods, and nothing else.

4274. Then you cannot speak at all of the results of such experiments?—No.

4275. With regard to your other experiments as to dabs and flounders, can you speak as to any practical results?—No, it is only experiments with regard to those fish.

4276. Then, so far as your experience goes, the only practical results you can speak to, surely, are connected with cod, are they?—Yes.

4277. Do you believe it would be possible to get good results from attempts to hatch other sea-fish?—Yes. It all depends on how the places are where the fry is going to be put. We have our fjords, which we may call natural rearing-ponds, and when we take the fry up to the upper ends of the fjords and put it out there, of course it is almost land-locked. There is the food, shelter and everything; and I really believe, as far as my experience goes, that we can get almost any kinds of fish in our fjords that can live there by artificial hatching.

4278. Do you think it is possible to keep the young fry till they get to some fair size before you turn them out?—I think it is possible; but we cannot do it yet; at least I have not succeeded.

4279. Have

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MR. DANNEVIG.

[Continued.]

Chairman—continued.

4279. Have you made experiments in the way of keeping cod in ponds?—Yes.

4280. Till they are two or three inches long?—Yes; I have had them up to 22 inches in ponds, but they have their natural food in the ponds. With regard to feeding them artificially, I have not succeeded, but I have had very little time to spend on the question. I think, however, the thing can be done, and when that can be done I think sea-fish hatching can go on to any extent.

4281. I suppose you would consider it almost necessary, for really successful results to be obtained for our hatching sea fish, that the fish should be kept long enough to be able to take care of themselves to some extent?—Yes; but that all depends upon where they are going to be put. As I said, if you put them in our fjords, there they are land-locked. Certainly, they have their natural enemies to contend with, but they are sheltered, and have their food.

4282. That would not apply, I am afraid, to our east or south coasts, at any rate, would it?—No; but it would be a very good thing if they could find a way to rear them here up to about an inch long, and I think the thing can be done if it is properly worked out.

4283. I suppose your experience with regard to the hatching of sea fish really exceeds that of anybody in Europe now?—I think so.

4284. Is there anything else you would like to tell the Committee?—No, not particularly. If you like to know what I have heard about the North Sea, and the fishery there, I can state that. I think with the way in which they are going on now, and if they are going to proceed in the same way, we shall have to leave the North Sea almost empty, and I think the general opinion is, too, that something must be done. In fact, I think we know very little about the fishing in the North Sea, as regards the spawning grounds, and the rearing or breeding grounds, and all that, and I think these things ought to be investigated thoroughly.

4285. Your first recommendation would be, then, would it, that a careful inquiry should be made into the conditions existing in the North Sea?—Yes, that we may first know how things are before we make proposals as to how they should be dealt with.

4286. Would you propose any restrictions?—Yes, to protect the young fishes.

4287. How?—That depends on different countries and the modes of fishing, but protecting the grounds, I think, is most necessary.

4288. Do you think it would be a good plan to extend the territorial limit; I mean to assign a duty to each country to look after a belt of sea round its coast of, say 10 miles, and make regulations in regard to that particular portion of the sea?—Yes.

4289. Or do you think it would be better for all the nations to join in international action with regard to the whole of the North Sea?—That will have to be done in time, but it will be no use to have all these restrictions of size of mesh and all that sort of thing, and then let these shrimp trawlers go inside altogether and take up all the young fish. I think that is the worst sort of fishery existing. I was told by the

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Chairman—continued.

Lancashire people that in getting two quarts of shrimps they killed 6,000 young fishes.

Colonel Cotton-Jodrell.

4290. The Chairman asked you as to whether we could conduct these hatching experiments on our own coast; but we should have to make different arrangements to what you have done, should we not?—Not much. The hatcheries themselves could be built on the same principle. It all depends on the purity of the water and the specific gravity of the water.

4291. How long do you suppose these young cod remain in the fjords?—That all depends, I think, on what variety we have got. If the spawners are the real fjord cod I think the young from those cod will stay there all their time, but if they are from the deep sea cod, I think they will go out, and then we will have them outside on the coast.

4292. They would go out of their own natural desire and instinct, you think?—Yes, I think so.

4293. How do you procure the spawn; do you get it at sea?—No, I buy the spawners from the fishermen, who catch them alive. In fact, almost all our fish that are sold in the market in Norway are sold alive. We would not buy dead fish. When they bring their fish alive to the markets, I go round and pick out the cod I want, or I get the fishermen to keep them in boxes till I want them. When the work begins we take the cod up to the spawning pond attached to the hatchery, and there it is placed during the spawning time. There are males and females together, and the current is so arranged that all the water we pump up goes into the spawning pond, and there the fish live, and, when they spawn, the spawn floats up to the surface; there is the current out, and it is arranged so that there is a place where all the spawn lies on the top of the water. We then take it up and bring it down to the hatchery. When the spawners have done spawning at the latter part of April I take them down to my wharf and feed them and keep them till next year. I have got about 500 now.

4294. Have experiments gone on long enough to allow any of these young cod to arrive at maturity yet?—Certainly, I began in 1884; that is twice the time required for a cod to get mature.

4295. Have you been able to ascertain whether any of these home-grown cod, if I may use the expression, have themselves bred?—They spawn. The cod that I have bred or reared from the fry, I have hatched myself in my rearing pond or nursery, have spawned.

4296. They have spawned there, have they?—Yes. They are dead now, they died by accident, but they spawned there.

4297. Had you any opportunity of observing whether that spawn hatched out?—No; I do not know. The water came in and out all the time, but there is no doubt about it.

Mr. Harry Foster.

4298. There is no doubt that it did hatch out, you mean?—Certainly; but we had no means to catch the spawn there, and it went out with the water, but it could certainly have hatched out. There is nothing artificial about it; the only thing

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Mr. Harry Foster—continued.

thing we do is to keep the spawn from being destroyed during development. The fishes spawn themselves, and the spawn is fertilised or impregnated by the males in the water. Then we fetch it out in boxes, and there is the water running all the time; there is no difference in temperature or anything of that kind.

Colonel Cotton-Judrell.

4299. And you say this hatching arrangement costs you about 500*l.* a year, do you?—Yes. That is not the hatching alone, that is experimenting with other things, lobsters and oysters; and my travelling expenses, and printing, and everything.

4300. The whole thing?—The whole thing; keeping up the place, and improvements, and so on. Less than half of the 500*l.* will do for the hatching proper.

4301. I am afraid we should require a larger sum in this country. We should not be able to do things so economically here, should we?—I think you would; I cannot see why not, when the thing is properly managed.

4302. You have your great natural basins for one thing, which we have not?—If you can manage to rear small fish, a thing you must certainly try to do, and which must be tried at different points by different people, then you are all right, and can turn them out. If you can only make them begin to eat, you are all right. Then the food for these small things will not cost much, and the looking after them will not cost much. You could get millions and millions of fish which would cost you only a small amount every day to look after, and when they were an inch long you could put them out into the sea. The difficulty is only to find a means of doing this, which must be tried. I do not see any other way.

Commander Bethell.

4304. What do they feed on?—Small diatoms. I do not know whether scientific men call them a plant or an animal lying in the water.

Mr. Buchanan.

4303. Is your hatchery far up the fjord?—No, it is rather out on the south-east coast; it is about two miles from the open sea, but it is protected from the outside.

4305. Then do you take the fish you have hatched to the upper water?—Yes, we have simply a small box to put the fry in, and then we take them anywhere we like. I have sent them all the way to Christiania, and I believe I could send them over to London.

4306. Would places like the lochs on the West Coast of Scotland suit your purposes?—Yes, I believe they would.

4307. With regard to the other point mentioned, do you think there has been such a decrease in the fishing in the North Sea all over that it is desirable there should be some kind of international arrangement to see what can be done to put things on a better foundation?—I think it is quite necessary. We do not fish so much in the North Sea proper; our fisheries are up off the Norway coast. I have some figures here from the Christiania fjords, where we have

Mr. Buchanan—continued.

been collecting statistics, which show that from 1872 to 1875 the average number of cod was 102,000; the next five years it was 62,000; then it was 71,000; and in the last period it was 44,000.

Major Jones.

4308. Was that in the Christiania fjord?—Yes. Now as to flat fishes, for the first period there were a little more than 6,000, the next five years 4,000, then 1,700, then 1,800; but for the last two years again it has only been 500, so that it has gone down from over 6,000 to 500. With regard to mackerel, that is the pelagic fish, in the first period we had 212,000, then 163,000, then 76,000, and then 47,000.

Mr. Buchanan.

4309. So that there has been a general decrease both in mackerel and flat fish and in cod fish, out in the ocean?—In all except the cod fishery, the herring fishery, and the salmon fishery; the salmon fishery has been increasing.

4310. With regard to opinion in Norway amongst the fishery authorities, would they support the idea that it is desirable that the powers interested in the fisheries in the North Sea should endeavour to come to some arrangement to deal with this serious question of the decrease of fish?—As I have said, we do not fish much down the North Sea. We have no trawlers, and a very few smacks go out fishing cod. Our fisheries are conducted further to the north, on the north-west coast.

4311. Of course, our trawlers go up to Iceland, as you know?—Yes, I know that.

Mr. Kearley.

4312. How do you account for the fisheries declining?—Over-fishing.

4313. What is the character of the boats you use: have you any steam trawlers?—No, we have no trawlers at all.

4314. What is the mode of fishing adopted?—Fishing by hand-lines, long lines, fixed nets on the bottom, and seines.

4315. Where is your fish market chiefly?—On our coast they fish for the nearest towns.

4316. It is merely local, is it?—Yes, it is merely local.

4317. Do you try to send any fish over here?—We send mackerel, lobsters, and salmon, but not these sorts of flat fishes.

4318. Do you think it is an essential condition in hatcheries that you should have these inland lakes to protect the young fry?—I do not think so, but I think it would be well if you could rear them to a certain extent before putting them out into the open sea.

4319. Is it not necessary to have these rearing nurseries, if I may so term them, in the shape of inland fjords?—I do not think so.

4320. Then how would you suggest we should rear the young fry on our coasts?—There are creeks that can be closed up quite cheaply.

4321. Which would be quite large enough, and suitable in every way, I suppose?—Well, that may be a difficulty, but it is only a question of money, and I think the thing is so important that some money ought to be used for that purpose.

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[Continued.]

Mr. Kearley—continued.

4322. Are you able really to notice an improvement in your fisheries since you have undertaken these hatchery experiments?—Most decidedly; otherwise our Government and the private people would not increase the vote to my place every year. They are giving me money for new experiments, and for extending the place, every year, and I am glad to say that, within reasonable limits, I always get what I ask for.

4323. May we take it that you have full confidence that in a few years your fisheries will be restored to their ancient vigour?—No, not in a few years, and not by the aid of one hatchery. I think a very great deal of hatching fish, and so forth; but it is a work which cannot be done in one place alone, nor in a few years; it requires long work and hard work. We have been fishing hundreds of years, and destroying the fishes, and certainly we cannot fill up the sea again in a short time.

Major Jones.

4324. One of your proposals for improving the fisheries was to protect the young, was it not?—Certainly.

4325. Have you any system, or a succession of systems, in your mind, formulated, for doing this?—Do you mean with regard to the North Sea, or with regard to our coasts?

4326. With regard to the North Sea?—I could not say; I know too little of the trawling, and I think it depends on the time the trawl is down, whether the fish is dead or alive when it comes up, and whether the fishermen will do anything to protect the young fishes, and throw them overboard. It would certainly be of little use to throw overboard a heap of dead fishes, and I do not think the fishermen will do much in that way; I am afraid they will not, so far as I know of them.

4327. What would be the effect, in your opinion, of passing a law to prevent the sale of immature fish?—They would not be tempted to go on the ground to catch them, that is certain. If they are allowed to sell the small fish, they certainly will catch them, but if it does not pay to catch them, they will, to a certain extent, leave them alone.

Mr. Robert Price.

4328. Do you think that if you had a sufficient number of hatching stations, and did it on a sufficiently large scale, that would be sufficient to restore fisheries without any protective measures to the young fish?—No; I do not think so. I think protection and hatching ought to go hand-in-hand. It is of no use to hatch an immense amount of young fish, put them out to sea, and then let these shrimpers and trawlers go and kill them at once.

Dr. Clark.

4329. I think you said there has been no legislation yet, in reference to permitting small fish to be brought into Norway, did you not?—There has been no regulation as to selling the young fish. Perhaps I made a mistake in answering the first question. There are regulations which allow the parishes, or counties rather, to have

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Dr. Clark—continued.

restrictive laws to protect the young fishes, that is, with regard to catching them; with regard to means of catching them; but now we are going to have a law prohibiting the sale of young fishes.

4330. Then you have local counties who have control over local fishing?—Yes.

4331. And they can make laws, can they, as to the methods of fishing?—Yes, I have got one restriction for that purpose, namely, the prohibiting of seining in the shallow bays, because in seining there they would take up all the small cod in the spring and summer months, the cod that was hatched the year before, and they would clean out every bay. And then, again, they would work with the small mesh seine for eels, which is an invention which has come from Denmark. It has a very small mesh, a pencil would hardly go through it. They used to go in the night time and work all the shallow bays, and they have killed all the fry and everything, but that has been got out of the way.

4332. How has that been got out of the way; by the local boards?—It is not allowed anywhere; all the local boards have put the prohibition into force.

4333. What is the character of this Bill to which you alluded which is before the Storting now?—It is not before the Storting. I had a paper from the Government in March, I think, but it is not before the Storting yet; it will be to prohibit the sale of immature fishes.

4334. Was that from the Government that has come in?—No, from the former Government.

4335. Do you think the present Government will also carry out the intentions of the old Government?—Certainly.

4336. Do you think the Norwegian Government will be glad to attend any international conference for the purpose of having an international law with reference to the capture and sale of immature fish, if it is proposed?—I cannot say, but I cannot see why they should not, because I think the protection of young fishes ought to be an international thing; it is a thing that affects all the nations. It will not do to destroy all the fish, as has been done; some measures must be taken, and I certainly think they would join, but, of course, I cannot say for a certainty.

4337. In your experiments have you placed young cod in all the fjords?—No, not in all.

4338. But have you in the big fjords of Hardanger and Sogne?—No, we have only kept it on the south coast.

4339. How far have you gone, to Stavanger?—Not so far to the west. I have sent them to the east, because the fishing is better on the south and west coasts than on the east. I have sent them to Christiania and to fjords between Christiania and Arendal.

4340. Have you found the same results everywhere?—No, not everywhere; it all depends on the quantity we send and the size of the fjord, and whether there are any people to look after the young or not.

Mr. Harry Foster.

4341. You spoke about some proposed legislation;

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Mr. Harry Foster—continued.

lation, are you familiar with the measure as it is drafted?—No, I was asked to propose a size; but at the time I was not prepared for it. I wanted to see a little more of the fishery and several places before I made a proposal.

4342. Were you asked to suggest what limit of size there should be in this proposed Act?—Yes.

4343. Do you know the English coast line well?—I have been a sea captain many years. I know it so far.

Mr. Harry Foster—continued.

4344. Have you indicated at all suitable spots upon the English coasts for these hatcheries?—No, not upon the English coast. I was over to the Isle of Man the other day, and saw Port Erin, which is a very nice place.

4345. Have you indicated to the Committee any suitable spots upon these coasts for these hatcheries?—No. I have not been anywhere, except at Port Erin and Dunbar, which are places already selected for the purpose.

Mr. W. L. CALDERWOOD, called in; and Examined.

Chairman.

4346. HAVE you given a great deal of attention to this subject of sea fishes?—Yes, I have; for some years.

4347. Have you been working in connection both with the Scotch Fishery Board and the Marine Biological Association?—That is so.

4348. Have you come to a general conclusion as to whether in the first place there is a serious depletion in the seas around Great Britain, and if so, in which, and, consequently, whether legislative interference is desirable to remedy this state of things?—Yes, my opinion is certainly that there is a very decided depletion, more especially in the North Sea, and I think the desire for legislation is very keen amongst all the fishery populations round the coast.

4349. Would you limit that view to the North Sea entirely?—No, not entirely. I certainly think that other districts on other coasts also want great attention.

4350. Do you think different proposals should be made for the North Sea to other portions of the sea round the coast?—I think if a limitation of size of a great number of fishes was resorted to, then there would need to be a difference as to the North Sea, but I do not think it is a very desirable thing to make legislation different on one coast to what it is on another.

4351. Would your opinion be that if Parliament is to interfere it should propose regulations which would be applicable to all the seas round our coast?—Precisely.

4352. To all classes of fishermen alike?—Yes.

4353. It is to the protection of immature and undersized fish you would especially turn your attention?—Yes.

4354. Do you think it is possible, by international agreement, to close certain large areas?—That is a question I do not know that I am capable of forming an opinion upon. As far as I can see that is a very excellent system in theory, but I think it is impracticable on account of the difficulties attached to it.

4355. Do you think it would be difficult to enforce any regulations?—Yes. I think theoretically it is a very fine idea, but I do not think it will work.

4356. Do you think we may put that idea aside as impracticable?—Yes.

4357. What form would your suggestions take?—They would take the form of limiting the sizes of a very limited number of fish. In pro-

Chairman—continued.

hibiting the landing and sale of fish under certain specified limits, I think the two points which have to be considered most carefully are, first of all, the particular kinds of fish which are to be restricted, and, secondly, the sizes which should be decided upon with regard to these fishes.

4358. With regard to the particular fishes what would be your view?—I have studied the matter, and the fishes which have been suggested by the National Sea Fisheries Protection Association and other bodies, and the great variation which is at once noticeable in plaice and in lemon soles for different coasts makes me feel inclined to disregard these two fishes altogether, more especially since the lemon sole is more or less a deep sea fish, and does not come under the jurisdiction of district fishery committees. Therefore the three fishes which I particularly turn attention to are the turbot, brill, and sole.

4359. Let us have your reasons for disregarding the plaice?—I have here a Table which shows as nearly as possible the sizes in inches at which certain fishes spawn on different coasts; and at the same time showing the sizes proposed by the National Sea Fisheries Protection Association. From that Table I think you will see at once I refer to the North Sea and English and Scotch coasts, the south coast of England and the west coast of Ireland. A glance at this Table shows at once that when the size of the spawning fish are considered they are for every case, with the exception of the lemon soles higher than the figures advocated by the National Sea Fisheries Protection Association. Also it is noticeable that the sizes vary somewhat on the different coasts, and that if a limit was determined, for many fishes it might be found necessary in fairness to make different sets of sizes applicable to different coasts. In this case I think it might be possible to make a line of demarcation at a centre in a long strip of coast where little fishing is carried on, so as to prevent, if possible, the catching of fish in one locality and the landing of it in another. If it was thought desirable to create a limit of size for the five fishes mentioned in this list, I think in fairness to the different coasts it is desirable to make different sizes for different coasts, and in that case I would suggest that the line dividing these various areas should be made at such a place that it would be next to impossible for a fisherman to catch his fish in one place and land it

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[Continued.]

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it at another. *The Table was put in, and is as follows:—*

TABLE showing as nearly as possible the sizes (in inches) at which certain Fishes spawn on different coasts; and at the same time showing the sizes proposed by the North Sea Fisheries Protection Association.

NAME OF FISH.	North Sea.	East Scotland.	South England.	West Ireland.	North Sea Fisheries Protection Association Conference.
Turbot - - -	17	18	18	17	12
Brill - - -	16	16	16	16	12
Sole - - -	12	-	12	12	10
Plaice - - -	17	12	12	15 or 16	10
Lemon Sole - -	11	8	8	8	11

Mr. Harry Foster.

4360. Or next to impossible?—I mean to say that it is not advisable.

4361. How would you make it next to impossible?—Simply by making it such a long way for the fishermen to travel.

Chairman.

4362. That would only apply to the small class of fishermen, and not to the big trawlers, would it not?—I think it would be possible to make it apply to the big trawlers.

Mr. Harry Foster.

4363. But the fishermen might have to travel only one hundred yards from one area to another, might he not?—No. I would suggest the North Sea as one area. I would make an east-coast man land his fish, if he wants to get to a place where he can sell very small fish, somewhere on the south coast, and that would not be worth his while.

Mr. Mallock.

4364. Then you would have to prohibit the landing, would you not, not the sale?—I would prohibit both.

Chairman.

4365. I want to know why you except plaice, which is after all the most generally used fish?—That is just my reason for leaving it out of account.

4366. May I ask, so far as you have had an opportunity of forming a judgment, do you think there is no necessity for protecting plaice?—No, I say it is extremely desirable to protect plaice, but there are so many difficulties surrounding the question that I do not see how you are going to do it.

Mr. Harry Foster.

4367. Do you mean unless you protect them up to the spawning size it is no use drawing the line?—Exactly. Unless you protect a fish until it has propagated its species, you do nothing. Therefore, seeing that there is such very great variation in plaice, and that in the North Sea a plaice does not spawn until it is 17 inches long, it is simply impossible to prohibit the taking of plaice up to 17 inches.

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Chairman.

4368. Then let us go to those you do propose to protect; turbot, brill, and sole?—I think, if you will glance at that table again, the highest figures in the first three lines are seen to be, for turbot 18 inches, for brill 16 inches, and for soles 12 inches. You will notice that there is only one inch variation in the size of the turbot for all the coasts, only one inch of variation for the brill, and no variation whatever for the sole, whereas in plaice there is a variation of five inches, and in lemon soles there is a variation of three inches.

Mr. Harry Foster.

4369. Do you say there is no variation on the south coast?—No. Therefore these 18 inches, 16 inches, and 12 inches would completely protect these fish; that is to say, it would enable all these fish to spawn before they are taken, and in the interests of the fishermen as well as in the interests of the fisheries, I think it is desirable to make the number of fishes to be protected as small as possible, and at the same time to make the protection complete. Therefore it is that I advise the three fishes instead of five, and the larger figures instead of the smaller figures proposed by the National Sea Fisheries Protection Association.

Chairman.

4370. Do you think that this would be accepted by the fishermen and by the fish trade generally?—That I cannot say, but in whatever way you legislate you are bound to inflict hardship somewhere, it seems to me. You are bound to inflict hardship if you restrict at all, and I think it is highly desirable to restrict properly when you are doing it, and restrict the most valuable fish.

Mr. Harry Foster.

4371. Do I understand that unless the limitation of those three fishes you have suggested as to the spawning size be made, you would attach no value to the limitation suggested by the National Sea Fisheries Protection Association?—That is so. I will take it in this way to illustrate it. At present there is no restriction. If you allow me to sell a sole, say of seven inches, I may sell it for 6d., say, for the sake of argument. Afterwards you say I may not sell a sole over 10 inches. Now I say that anything that is over 10 inches, but not up to 12 inches, is of just the same value in the propagation of species as a sole of seven inches.

4372. Putting it shortly, am I right in supposing that your recommendation is that the suggestion of the National Sea Fisheries Protection Association as to the whole of the these fishes is useless?—Yes, that is my idea. It is founded, so far as I can make out, more from a commercial point of view; it will control the price in the market, but it will not benefit the actual preservation of the fisheries.

Chairman.

4373. May I take it that that opinion is universal amongst scientific men?—Yes; I think so.

4374. That is the scientific opinion as against the trade opinion, is it?—Yes.

4375. Then I suppose this object of protecting certain

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Mr. CALDERWOOD.

[Continued.]

Chairman—continued.

certain fishes might also be attained by making certain arrangements or prohibitions with regard to the engines used in fishing, and by regulations as to mesh?—I do not know whether it is possible; I rather think it is not. I do not put any stress on the restriction of mesh, because a mesh is only suitable to one particular kind of fish. I mean to say, in making a mesh to allow immature plaice to pass out, you allow mature soles to go through free also; and more than that, if it were possible, say by making a square mesh, to allow of a net being drawn along with its meshes open, it is still certain that an endless amount of weed, and what trawlers call scruff, will be collected in the cod end of the net.

4376. Have you any opinion with regard to the prohibition of trawling in the territorial waters?—I think that the wholesale prohibition of trawling is inadvisable, even in territorial waters. It is in fact within the jurisdiction of the District Fishery Committees and the Scotch Fishery Board to determine what waters should be protected and what should not.

4377. Then do you disagree with the policy of the Scotch Fishery Board in prohibiting trawling in territorial waters off the coast of Scotland?—Universally, I do. I think in some cases where there is a very great amount of fishing by line, where the population are almost entirely line fishermen as on the East Coast of Scotland, it is extremely advisable to restrict trawling, but in other places, where trawlers may come to the inshore waters that are known to be nurseries of young fish, then I think it would be better to stop them.

4378. Has not the result of the prohibiting of trawling on the East Coast of Scotland, in territorial waters, been to greatly facilitate the relations amongst different classes of fishermen?—Yes, I think that is so; it has done good in that respect. But my objection to that would be that it is hardly a fishery aspect of the matter.

4379. But do not you of your own knowledge know that one of the great difficulties in all these fishery matters, is the difficulty of adjusting matters between different classes of fishermen?—Precisely.

4380. And is it not the fact that the opinions of fishermen with regard to the conditions of the fisheries, depend very much on the particular fishing each pursues?—Quite so.

4381. So that anything that tends to make things work without friction is desirable. Does the same view with regard to the prohibition of trawling in territorial waters apply to shrimp trawling?—Yes.

4382. You would not prohibit it, would you?—I would, in certain localities where it is found to be destructive to a great number of young fish.

4383. Have you known that to be the case of your own knowledge in certain places?—On the matter of shrimp trawling I have no figures that I am justified in giving, to fix conclusions. I can only bring forward evidence which is free to all. I mean to say the evidence produced by Dr. Fulton of the Scotch Fishery Board with regard to the Solway fisheries, and so on.

4384. With regard to the protection of adult fishes, do you think there is anything to be done in that way?—Do you mean by a close time?

Chairman—continued.

4385. In any way?—The only way which I can see is by making a close time, and the unfortunate thing about making a close time, in my opinion, seems to be that all the difficulties which arise out of the other question of limiting the size, come up again. That is to say, you have got to discard one kind of fish and keep another, and all the difficulties of these fish being alive in the trawl or dead, arise again. More than that, the time when you would naturally make a close time is during Lent, when fishermen reap the most decided harvest.

4386. Have you heard the evidence given us by Mr. Dannevig with regard to the Norwegian hatcheries?—Yes.

4387. Do you think that anything of the sort is practicable on our coasts?—Yes, I think it is; more especially in Scotland. I think the coasts of England are, unfortunately, not very well adapted for it, especially on the East Coast, where there are none of the natural creeks and fjords that Captain Dannevig speaks of, but that experiments should be made similar to those being instituted now by the Scotch Fishery Board at Dunbar, I think is extremely desirable. I would also agree with Captain Dannevig in saying that the hatching of fish should go hand-in-hand with the restriction and prohibition of certain other matters. I also would second entirely his statement as to the rearing of fish as well as hatching them. To hatch alone is only half the difficulty, but to hatch and rear until the critical stages have been passed is in my opinion most valuable.

4388. Have you had any experience of any experiments with regard to fish hatcheries?—Yes; I have hatched a considerable number of fishes; always on an experimental scale, of course.

4389. Have you reared these fishes to any size?—No; I have not. No one has in this country.

4390. That is the difficulty, of course?—There is no place yet made in this country where you can do so. What we want is enclosed areas similar to those in Norway, which Captain Dannevig has been speaking of.

Commander Bethell.

4391. How big must they be; what sort of size would do?—Captain Dannevig would be much more capable of answering that question than I am. I forget the capacity of his pond, but the one which he saw at Dunbar is, I fancy, about 40 yards by 20. Captain Dannevig tells me that his pond is about three times that size, and fairly deep in some places, and holds a considerable quantity of water.

Chairman.

4392. Have you given any attention to the results that have accrued in America and Newfoundland?—Yes.

4393. What is your view as to that? Do you believe that any really satisfactory results have ensued at present, which can be traced?—I believe the Americans are rather apt to exaggerate their results. With all deference to their great amount of hatching, so far as I can see, I do not think their great results can be entirely

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[Continued.]

Chairman—continued.

entirely relied upon, and in the matter of the island of Newfoundland, where Mr. Neilson is working, I think the same. He merely hatches and turns out, and in that way, no doubt, he forms an excellent food for the cod which surround the island. I mean to say in hatching lobsters he makes food for the cod.

4394. Then we certainly should not be justified in making any recommendation in this matter founded on results hitherto obtained either in this country or in foreign countries, should we?—I think Captain Dannevig's results are to be relied upon thoroughly, but in America I think the only thing which they can positively say has been a decided success, if you examine their evidence, is their shad, which does not apply to us.

Mr. Mallock.

4395. Supposing this limit that you suggest where the fish of different sizes might be caught be made, you could only restrict them on landing, could not you; because, if the fish came to Billingsgate, you could not tell then where they were caught?—In regard to that, so far as I can see, it might be possible to have regular measurements laid down on the deck of a boat. That might be done very readily so that you could pass a fish between blocks of wood, say, and if its tail did not touch one block it would go over the side. That might be done just as you register a boat.

4396. But how would you enforce it?—I think it might be possible to have some person to supervise the registered boats all round the coast.

4397. Some one to go on board any boat?—Yes, there is a person who registers them now, and it seems to me you have only to extend that system a little more and you could make these measurements.

4398. If that could be carried out it would not be necessary to put any restriction on the sole, would it?—No, except its size.

Commander Bethell.

4399. Neither the Scotch or English laboratories have done anything, I understand you to say, in the way of rearing?—No.

4400. In hatching they have, have they not?—Yes.

4401. And the rearing is a very much more difficult operation, is it not?—Yes, but nowhere in this country have we ever been able to get such sea areas which may be enclosed, where the hatching of fish could be carried on under their natural condition, as it were. The difficulty always seems to be in feeding the young fish which are in captivity. If we can have areas where the fish have their natural food in like manner as Captain Dannevig has in the upper parts of his fjords, then, I think, the difficulty is solved here as it is there.

4402. But is the difficulty of finding out what they live upon so extraordinary that it has baffled scientific inquiry so far?—No, I think not, but the difficulty is to procure this food.

4403. Why?—These diatoms are, you may say, invisible to the naked eye.

4404. But I suppose it is known to scientific people under what conditions they can be taken

Commander Bethell—continued.

in the water?—Yes, and experiments have been tried to develop these little diatoms, and make them grow naturally in the water, but they have not been successful.

4405. Are they brought in by the tide?—Yes, and I think if they could be brought in by the tide into an enclosed area you would produce their food in a natural way.

4406. There is an extraordinary difficulty in getting the tide to flow in anywhere, is there?—No, but no one has done it. It is a matter which will mean considerable cost, I think, in this country. I know it personally myself, because I tried the experiment at Mull, and left to come to the South before my experiments were finished, but I hope some day to take them up again.

4407. Can you give the Committee any further information as to what are the habits of the very young of the sole as opposed to the other flat fish?—In what respect?

4408. They are found, I understand, in different waters?—Yes. I do not know that I can add anything to what has been already said with regard to the sole.

4409. As a matter of fact they do exist in deeper water, do they not?—Yes.

4410. And there is not the same evidence to show, is there, that after the spawning they come into shallower waters?—No, not in any numbers; not as plaice do.

Mr. Buchanan.

4411. With regard to the hatcheries you would be in favour of their establishment if it were practicable in this country, would you not?—Yes.

4412. Do you think there are places which would be fit for it along our coast?—Yes.

4413. But you think the cost would be very considerable, do you?—Yes.

4414. Do you mean the initial cost of enclosing these places?—Yes, to enclose a creek you must have a concrete wall, which means money; unless you can dig an entirely new pond and let the sea into it.

4415. What is being done at Dunbar would be sufficient to carry it out, would it not?—I think the Dunbar experiment is very good. They have a pond there. They have not quite completed it yet as changes on the Board seem to have stopped the work, but I think their experiments are on the right lines; exactly on the lines, in fact, of Captain Dannevig.

4416. Do you recommend that?—Yes.

4417. Are you acquainted with the American hatcheries?—Not personally; I have not been there. I have merely studied their reports.

4418. I think you began your evidence by stating that there is a large diminution in fish, particularly in the North Sea, and all the seas round our coast; to what do you attribute that?—To over fishing.

4419. Then do you consider that that, in a large degree, is due to the growth of trawling?—Yes, I do, because the increase in the number of trawlers, more especially the steam trawlers, has been very enormous in the past few years, as you know.

4420. And notwithstanding the great increase

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[Continued.]

Mr. Buchanan—continued.

crease in the catching power, there has been nothing like a corresponding increase in the amount of fish caught, has there?—No, I think not. If the amount of fish landed from the North Sea remains stationary it has to be distributed over about three times as many boats.

4421. With regard to the prohibition of trawling, which has been already imposed by the Scotch Fishery Board, when you said you were opposed to that, was that from experience?—Only in part. For two years I was on board the "Garland," and had charge of her, and had the privilege of laying down the lines, which they are proceeding upon still, and I have naturally watched the results of her experiments with some interest. I think the wholesale prohibition of trawling in territorial waters cannot be borne out by the results we have.

4422. How long is it since you ceased to be connected with the Scotch Fishery Board?—About four years, I think.

4423. Of course, the prohibition of trawling all round the coast was only enforced in 1889?—Yes.

4424. So that your connection with that fishery board ceased before that prohibition of trawling was imposed, did it not?—Yes.

4425. As I understand, the only recommendation you make is that we should prohibit the capture and sale of turbot, brill, and sole at the size of 18, 16, and 12 inches?—Yes.

4426. Is that the only remedy you have to suggest?—Yes; and also I advocate the establishment of hatcheries. I think that the two should go hand in hand.

4427. Do you think the prohibition of these three sorts of flat fish, and taking these large sizes, would be very effectual in re-stocking the sea?—Yes, I think so. It gets over very many of the difficulties which are almost insurmountable if you include plaice and lemon soles.

4428. But we have had evidence, I think, that the fish which is principally caught under size is plaice?—That is, no doubt, true. I entirely agree with that.

4429. So that you omit from your recommendation the most important fish which we want to protect, do you not?—Yes; because I find the plaice varies so very greatly in the size at which it spawns that too often the system of limiting the size would make it impossible to have one limited size applicable to the whole coast.

4430. But, although you omit the fish which is principally destroyed now, do you think it would be worth while to impose this very strong limit on these three fish?—I certainly do; the turbot, brill, and sole are all more valuable than plaice, and then again the difficulty of measuring three fish is very much less than measuring five, considering that the plaice forms the great bulk of any flat-fish haul.

4431. But still the sizes you would impose on these three fish are 30 per cent. over the size suggested, are they not?—Yes; but my contention is that any size below that is invalid.

4432. Still you would anticipate good results from your recommendations, would you?—Yes; if these sizes I recommend are adopted, my contention is that the fish would be allowed to spawn

Mr. Buchanan—continued.

before they are taken, and that is the only method for providing naturally the keeping up of any one species.

4433. Would you fix this limit all round the seas?—Yes.

4434. Then you do not propose, as I understand you, to fix different sizes for different coasts, do you?—No. I was only suggesting that if it was advisable to include the other two which I propose to leave out, then it would be necessary in fairness to make different sizes for different coasts. That is another of the difficulties which I get over by only having three fish.

Mr. Kearley.

4435. Do you think that some legislation is required to prevent the catching of immature fish?—Yes.

4436. And that, in the event of its being passed, that it should be of a uniform character, applicable to all parts of the coast?—Yes, that is my idea.

4437. You are at Plymouth now, are you not?—Yes.

4438. Are you acquainted with the character of the fisheries there and at Brixham?—Yes.

4439. Are you aware that the Plymouth and Brixham people take exception to legislation?—Yes.

4440. And that they point out, as a justification for their attitude, that the fish there, instead of diminishing, is increasing?—Yes.

4441. And that the size of the catch is satisfactory in every respect?—Yes.

4442. Then would you advocate that it should be put under any restrictions?—I do not agree with the statements made by the Plymouth and Brixham people.

4443. Do you not accept their statements?—No, I cannot conscientiously accept their statements.

4444. Can you give us any reason for taking exception to those statements?—My own personal observation does not bear out what they say, nor, I think, so far as I remember, do the Board of Trade returns bear out what they say.

4445. Have you any reason to trust the Board of Trade returns from Plymouth. Have you not heard it suggested that they are unreliable?—Yes. I have heard it suggested that they are. My experience there is that in Plymouth there are very many boats which are failures; they can never make a living, they are heavily mortgaged, and, from time to time they fail, and come to the hammer. That is a very common condition in Plymouth, and, in the face of that, to say that the fishing is an entire success, seems to me to be rather absurd.

4446. With regard to the Board of Trade returns, do you feel justified in accepting, or within your own experience would you accept the Board of Trade returns?—Yes. I would accept the Board of Trade returns in certain lines. I would accept certain of the Board of Trade returns.

4447. From Plymouth?—From Plymouth.

4448. Which are those you would accept, and which would you reject?—I would accept all the statements about the number of fish sent by rail inland. Unfortunately, I think these do not quite correspond with the number of fish landed.

4449. What

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[Continued.]

Mr. Kearley—continued.

4449. What methods have you adopted to get figures which disprove the contention of the practical fisherman?—In what respect?

4450. As to the immature fish?—I do not think, so far as I know, the fishermen have made any statements as to the size at which these fishes spawn, have they?

4451. No, not as to spawning of fish; the statement made is the one to which I referred just now, that the amount of fish caught is satisfactory and increasing, and that the size is not such as to justify any legislation?—As I say, I continually see trawlers at Plymouth who are labouring under great difficulty to make two ends meet. I also continually see trawlers which are being sold up, and I also hear that the home grounds are fished out. At other times I am told that these fishing boats which come in with good catches have been able to do so because they have gone to the Bristol Channel and Mounts Bay, and to distant grounds where previously they did not fish at all.

4452. Do I understand you to express an opinion of your own as to the Plymouth ground being fished out; or is it merely hearsay evidence?—I have not examined the ground myself, so I would rather not venture on that.

4453. Then we may take it that the evidence given by the practical fishermen at Plymouth, as regards the fishing grounds being in good order, is not denied by you, because you have no practical experience?—No; but at the same time I would accept it with hesitation.

4454. If in your opinion any limit is fixed as to the size of fish, do you think it should be the size at which fish are known to spawn?—Yes, not below it.

4455. For the very reason that by putting a limit on fish before the spawning size, the thing would practically be inoperative?—Quite so.

4456. Do you advocate fish hatcheries where possible?—Yes.

4457. Are there any places in the West of England suitable, do you consider?—I am not sufficiently well acquainted with the coast north of the Bristol Channel to say.

4458. Would the Hamoaze do?—I think not.

4459. Would it do, in your opinion, to place these hatcheries up the rivers?—No, certainly not.

4460. They must be in sea water the whole time, must they?—Yes, in pure sea water.

4461. Would it be impossible to rear fish under any other conditions?—It would be possible to rear certain kinds like flounders and dabs that live practically in estuaries. You always find them in estuaries; but it would be absolutely impossible to rear fish which require pure sea water.

4462. Of course that is a difficulty we shall always suffer from in that respect, is it not?—Yes, I have examined all round Devon and Cornwall for suitable places for ponds, and I have come to the conclusion that it would be difficult, because, if you had a creek, it would be extremely deep, and you could not build a wall across it, and at the same time you would always have a stream of water coming in at the top, so that you would always have brackish water.

4463. It has been suggested that temperature 0.93.

Mr. Kearley—continued.

has some effect in maturing fish; for instance, that the western waters are warmer than the waters of the North Sea, and consequently fish mature quicker there?—I do not know that they mature quicker; I do not think they do. I think, however, it is certainly true that in the North Sea they grow very much more rapidly than on the South Coast, and therefore it is we find them spawning at a very much larger size.

4464. Do you think they grow quicker in the North Sea?—Yes, I think so; I do not think there is room for doubt as to that.

4465. It was suggested by some of the witnesses that the fish matured quicker in the warmer waters?—They mature at a smaller size.

Colonel Cotton-Jodrell.

4466. And they grow larger in colder waters, do they?—Yes, they grow larger in the North Sea, at any rate.

Major Jones.

4467. Do you say that no benefit would accrue unless the fish were allowed to spawn before they were caught?—Yes.

4468. But you do not overlook the fact, do you, that that means that benefit would accrue by allowing the fish to grow, at all events, up to the sizes that you indicate here?—Yes, quite.

4469. Of course you recognise that fact?—Yes.

4470. And that there would be an immense quantity of food supplied by the growth even within the limit you suggest?—Yes.

Mr. Robert Price.

4471. In the event of it being found impracticable to fix these sizes, what is the next best method to pursue?—Do you mean the three sizes or the five?

4472. I mean the sizes you speak of, the three sizes.—I do not know of any other method which could be resorted to.

4473. Do you think that shutting certain areas where young fish breed would do?—I am inclined to think that shutting certain areas is very excellent in theory, but it would be impracticable. I can quite conceive a fisherman in the North Sea in winter time and in foggy weather, fishing first of all on the ground where he is allowed to fish, and, without knowing it himself, eventually getting on to the ground where he is not allowed to fish. These cases, I should think would crop up continually, and it would be difficult to go on punishing men who were transgressing through no fault of their own. Over and above that there is the expense of a fleet of police boats, and the general inconvenience which would occur in that way.

4474. Do you think there might be much improvement made in the method of making the Board of Trade Returns?—Sometimes, when studying the Board of Trade Returns, I have not been able to find, if I remember right, in giving the weights, the number of fish landed.

4475. Do you mean you cannot tell the average weights?—No; they give the number of cwts., but I have to get a measure and fill it with fish, to see how many there are there. For instance,

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I am not able to gauge whether they are small fish or large.

4476. Do you agree with the previous witness that there ought to be a good deal more information, first, as to the place in which the fish is caught; secondly, the *habitat* of the fisherman by whom it is caught; and, thirdly, as to the average size of fish?—Yes; I think it is valuable information to possess.

Dr. Clark.

4477. You stated that you thought the Scotch Fishery Board had taken in more ground than they ought to have taken in?—Yes, in their territorial limits. I think that in many districts the prohibition of trawling is without any result. I mean to say that they prohibit the trawlers from going to grounds where in my opinion they probably would only go occasionally.

4478. What are these places? Can you give me the names of two or three of them?—Well, a large part of the Moray Firth, for instance. They run their line, if I remember rightly, across to Tarbett Ness from Kinnaird Head. I think there is a tremendous area of water there, which formerly was rather valuable at certain times for a trawler; and that area of water I do not think is worked upon to any great extent by the line fishermen.

4479. What is your evidence upon that?—Do you know that there is a very large fishing population on both sides?—There is on the South Coast, yes.

4480. And also on the North Coast. Do you know that there are seven or eight fishing villages in Caithness alone?—But I am referring rather to the country south of Helmsdale, where there are not many fishing villages of any size.

4481. Do you mean in Sutherland?—Yes; and in a little part of East Ross and Cromarty.

4482. Is there any part you can mention?—No, there are only some grounds which are closed to trawlers on the East Coast, near Montrose, I think, to the north, where the ground is not very good, and where fish would probably not naturally go, except when they are driven in or something of the kind.

4483. Are you aware that the fishermen on the north of the Moray Firth have had their lines and nets destroyed by the trawlers?—Yes.

4484. And are you aware that there have been breaches of the peace because that has occurred?—Yes.

4485. And that a large number of fishermen have petitioned the Fishery Board to extend the limits rather than to lessen them?—Yes, I am aware of that.

4486. Do you think it would have been better if the Fishery Board had not done so?—I think so.

4487. And that there would have been more fish caught?—I think so, in some areas, where there are a large number of line fishermen. I think in these districts it is decidedly advisable to restrict the trawling, in deference to the number of fishermen; but to make a wholesale restriction all round I do not think is desirable.

4488. Then would you settle the district in

Dr. Clark—continued.

order that the new fishermen should not interfere with the old?—You mean the steam trawlers?

4489. Yes?—Yes.

4490. But the grounds of interference are the best, is it not, to what extent the statements are true as to the decrease of the fish in those grounds?—Yes. I think, of course, that there are other districts, as I think I have previously mentioned, where it is proved that there are young fish, very small fish, in great abundance at certain seasons, and these districts I certainly also would enclose.

4491. Do you mean outside the territorial limit?—No, inside.

Mr. Harry Foster.

4492. I understand that you consider it would be impracticable to prohibit the landing of either plaice or lemon soles at the size of maturity?—Yes, in the North Sea.

4493. Because maturity is reached at a much smaller size round our own coast; is that one of your reasons?—Round the South Coast it is much smaller.

4494. Taking England, Scotland, and Ireland; according to your table, in each case the size of maturity is much smaller than in the North Sea?—Yes.

4495. Then I understand another objection that you have is, that because there is such a large trade done in plaice, more particularly it would cause a very great dislocation of trade?—Quite so.

4496. Those are the two grounds of your objection to that?—Yes.

4497. Then I understand that you consider it impracticable to make any alteration in the size of the mesh?—Yes.

4498. Do you think that would be quite impracticable and useless?—I think so.

4499. Then I further understand that you think it would be impracticable to do anything in the way of protecting the nurseries of the fish?—No, I beg pardon; I think not. I think the nurseries of the fish should be certainly protected, as I said just now to Dr. Clark.

4500. That is as to an extension of limit?—Do you mean more than three miles from the land?

4501. Yes?—Yes; certainly. If there are nurseries at a greater distance than three miles from the land, I would certainly protect them, wherever they are.

4502. I understood you to say that the only recommendation you could see as at all practicable, was limiting the landing of these three fish?—No; I included the other thing.

4503. At any rate, what you do recommend is that there should be a prohibition of the landing of turbot, brill, and sole, at the size of maturity?—Yes; under the size of maturity.

4504. You do not suggest that the catching of those fish could be prevented?—No.

4505. It could not be prevented?—It could not be prevented.

4506. Are you aware that when the fish are caught something like nine-tenths of them are dead at the time they are brought on board the vessel?—Yes; but then you see I have another advantage.

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[Continued.]

Mr. Harry Foster—continued.

advantage. It appears to me that, in making these three sizes as large as I do, I have fish that are very much larger and very much stronger; and I think those who make statements about the large mortality amongst trawled fish, will bear me out in saying that the large fish are preserved in much greater number than the smaller ones.

4507. Do you know that we have had evidence before us that nine-tenths of all the fish, as a minimum, are dead?—I have not noticed the evidence. I have had personal experience in the matter, and I certainly think that under certain conditions there is great mortality; that is to say, if a trawler trawls for a long time on a very soft bottom the majority of his fish are certainly dead. On the other hand, if he takes a short trawl on hard ground, a small proportion of the fish are dead. That is borne out again in shrimping, where they trawl only for an hour on a hard sandy bottom.

4508. But do you know that as a rule the trawl is down for a tide?—Yes.

4509. Therefore your remarks would only apply to the question of shrimping?—No; I have often trawled, keeping the trawl down for six hours. If it is on a muddy bottom then I agree that a large number of those fish are dead. If, however, it is on a hard sandy bottom, there is a large proportion of the fish alive; they are not choked up with mud. That is to say the cod end of the net does not come up choked with mud, and the fish smothered in it; it comes up clean with a little weed, perhaps, in it.

4510. I understood you to say, when asked how you would carry out the prohibition, that you would suggest that at the port of landing, each fish should be put between two slabs of wood?—No; my idea was rather to get over the difficulty by making each trawler have on its deck the standard sizes laid down as to the three fishes; and to make it illegal for any trawler to land any of these particular kinds of fish that were smaller than the standard sizes. These sizes could be surveyed in the same way as a trawler's number is surveyed; and, on a trawler being registered, it should also have the sizes affixed to it.

4511. What power of inspection do you suggest?—Some power similar to that of the Scotland Fishery officers.

4512. That would be at the port?—Yes.

4513. The power of inspection would therefore be at the port, and therefore many hours after the fish was caught, would it not?—But then you have to punish the man for keeping the fish; he has already had an opportunity to discard them.

4514. Do you mean, then, that there would be a measuring twice over?—I mean that the trawler would first of all measure the fish, when he has them on deck, as he brings up his trawl; and that therefore he will be perfectly free to discard all that are too small; and he knows perfectly well that if he goes in and the fishery officer sees he has some that are too small, he is liable to a penalty.

4515. Then you made use of the observation that those which did not come up to the limit should be thrown overboard?—Yes.

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Mr. Harry Foster—continued.

4516. Having got them, if the majority of the fish under the limit are dead, is there any advantage in throwing them overboard?—Then you see again, I do not recommend the fish which form the majority of the catch; I do not take the plaice and lemon soles, and my sizes are very large; therefore I say I have got a greater proportion of live fish amongst my turbot, brill, and soles, than there is amongst the plaice and lemon soles.

4517. But you are throwing away, at the same time, a lot of the smaller sized fish that are dead, in any case, are you not?—Yes, there are some dead; you cannot get round that difficulty I think, only it is minimised.

4518. Therefore you would not, to that extent, stop the destruction of those fish, would you?—You cannot; but you can minimise it as much as possible.

4519. So that even if this recommendation were carried out, it would be only at the most a palliation of the evil, and would not stop it?—Yes; it seems to me a course between the two.

Sir Albert Rollit.

4520. If your limit of sexual maturity were adopted, that would inevitably be a great obstacle to the fishing industry, would it not?—Yes; not a great obstacle, but a considerable obstacle.

4521. It would exclude the use of many fish, would it not, and it would involve the time and trouble of throwing them overboard?—Yes, of three kinds of fish.

4522. With regard to those that were thrown overboard, is there any disadvantage in their being thrown into the sea when dead?—I certainly think so.

4523. What disadvantages chiefly; fouling the ground?—Yes.

4524. So that that again would be an objection to your proposal, would it not?—Yes.

4525. I understand you to say that you can see no advantage in a mere size limit below the limit of maturity?—Quite so.

4526. But from your recent observations I gather there would be a greater saving of life by the fish being stronger?—Yes.

4527. And that would be another advantage, would it not?—Yes, that is my contention.

4528. Did I understand you to say that you would advise the extension of the territorial limit beyond three miles?—Only if it were found possible to enclose such areas as were known and proved to be nurseries for young fish.

4529. That would apply, if it were possible by convention to do it, even more strongly, would it not, to the west coast of Europe?—Yes, to the eastern side of the North Sea.

4530. That would be an easily-defined area, would it not, taking Heligoland as a point, and north of that two or three degrees of latitude?—Yes, I think you could define it.

4531. Therefore I understand that you would approve of that course being taken as to a large area which was an admitted nursery and capable of easy definition?—Yes.

4532. And that would specially apply to the east side of the North Sea, would it?—Yes.

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[Continued.]

Sir Albert Rollit—continued.

4533. Which is the nursery of nurseries, is it not?—Yes, in the North Sea.

4534. With regard to the size limit, is your opinion strengthened by your knowledge of the experience in Belgium and Denmark. You say you think it would be of no value; but I believe there are laws in force there, are there not?—Yes, but there the size is so small that the fish do not spawn before they are taken.

4535. Yes, but I understand your opinion is that such a limit in this country would not be of value?—Yes.

Sir Albert Rollit—continued.

4536. Is that opinion formed from anything you know about Belgium and Denmark?—No.

4537. Do you not know that public opinion approves the law there?—Yes, just as I know that here the majority of the fishermen, that is to say, the fishermen of the East Coast of England, entirely approve of these smaller sizes which I take objection to.

4538. Then your opinion is at variance with the practical opinion, is it not, of other counties; and also of the fishing community of our own country?—Yes, entirely.

Professor W. A. HERDMAN, called in; and Examined.

Chairman.

4539. ARE you the expert adviser of the Lancashire Sea Fisheries Committee?—I am, informally. I have no official connection with them. I happen to be Professor of Biology in the neighbourhood, and they asked me to investigate certain points for them, and now they have work done by an assistant in my laboratory, and they allow a small grant for expenses. That is the only connection between us.

4540. Have you given much attention personally to the question of fisheries?—Yes, I have.

4541. In what way?—In the first place, during the last 15 years I think I may say I have been investigating constantly the marine fauna round various parts of our coasts, and then during the last few years, since the Lancashire Sea Fisheries Committee has been instituted, I have been attending more especially to fishery questions, and to these points in marine faunistic work which have some bearing on fish questions, such as the food.

4542. Have you formed any opinion as to the present condition of the fisheries off the Lancashire coast?—You mean as compared with former conditions?

4543. Yes?—Although there may be no reliable statistics one can point to, I have a very strong impression that they have fallen off, I think I may say very much; but that is based to a great extent upon merely talking with fishermen and fish salesmen, and with men who have been trawling, not necessarily for fishes, during the last 20 years or so. It is a strong impression, but I could not prove it.

4544. Would that apply to the size of fishes, or to the number and size?—Both number and size.

4545. You think that fewer fish are caught; and that those fish average a smaller size?—Yes, that is my impression.

4546. Is that diminution of catch especially noticeable with regard to any particular sorts of fishes?—Yes, to the sole most, I think.

4547. To what would you attribute any diminution which may have taken place?—I think to over-fishing.

4548. Are you prepared to make any suggestions to the Committee which you think would be of use on the Lancashire coast?—Yes; I think that the fish nurseries ought to be specially protected; I think that hatching ought to be

Chairman—continued.

carried on; and I think that a size limit ought to be imposed.

4549. Have you any very marked areas off the Lancashire coast which come under the head of fish nurseries?—Yes.

4550. Will you tell us what they are?—I think almost the whole extent of the shallow sandy shores off the Lancashire and Cheshire coast is a great fish nursery for the young fish. Of course there are some parts that are perhaps more frequented than others. There is a ground off Blackpool which I think is very much frequented by small fish.

4551. Is that throughout the year, or at certain seasons of the year?—You can hardly ever trawl there without getting some. No doubt they are more abundant at certain times than at others. Then there are certain places off Liverpool between the banks, the names of which I can tell you, certain channels where you get great quantities of young flatfish.

4552. Are these places very clearly defined, do you think?—Of course they merge off on their boundaries. I think one could define them.

4553. Supposing it was desired to close these particular places at certain seasons of the year, would it be easy to define the areas you should close?—I think so.

4554. Are these young fishes the result of spawn that has been shed within these areas, or are they brought from outside?—The fish spawn much further out.

4555. Then the action of the tide and so forth floats the eggs in, I suppose?—No, not the eggs; but the young at a later stage.

4556. You think when they are in their pelagic stage?—Yes, or even a little later than that. It is not in very young stages they come to the shore, at any rate not in the case of the sole.

4557. Are there a great many plaice there as well as sole?—There are.

4558. What would you suggest with regard to any closing of areas in the district of which you have been speaking?—Of course the great difficulty in our district is the shrimping industry. That is a very important industry in our neighbourhood, and I think it will come to be a conflict between the two, shrimping and fishing. I think one will have to be sacrificed to some extent. My own opinion is that it is the shrimping that will have

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have to give way, because I think there is not the slightest doubt, and this is a matter on which I can bring definite statistics before you, as to the enormous injury to young fish done by the shrimping in our neighbourhood.

4559. Can you give us any statistics you have on the subject?—I have a short summary published in a report which I prepared (in December 1892) for the Lancashire Sea Fisheries Committee. The statistics on which it is based I have in manuscript in my laboratory, but it will be sufficient, no doubt, if I give you three or four examples. The particular haul of a trawl in a particular place on July 27th at Burbo bank, with a shrimp trawl out 1½ hours, showed 5,785 immature food fishes to two quarts of shrimps.

Chairman.

4560. Can you tell us what those fishes were?—Yes, I can; if you will allow me to write to you about them. I have all the details at Liverpool.

Colonel Cotton-Jodrell.

4561. Was it food fish?—Yes; all food fishes.

Chairman.

4562. How many shrimps does two quarts represent, do you know?—I am afraid I cannot tell you that.

Sir Albert Rollit.

4563. Can you give us roughly what the fish were?—Yes; I think I can. There would be, no doubt, a great many soles, plaice, and dabs.

4564. What proportion of dabs?—A good many dabs; dabs are pretty common with us. Then there would be some round fish, no doubt, small whiting and codling.

4565. Would those you have mentioned be proportionately about equal?—I daresay there were more dabs than soles.

4566. And what plaice?—Perhaps the plaice would come next to the dabs in numbers; still there would be a good many soles. On August 13th, in the Horse Channel, with a shrimp trawl out 1½ hours, there were 4,616 immature food fishes to five quarts of shrimps. On August 23rd (on the same ground), with a shrimp trawl out two hours, there were 6,827 immature food fishes to five quarts of shrimps.

Colonel Cotton-Jodrell.

4567. In the Horse Channel you would expect to find more soles, would you not?—Yes, that is a ground for soles; that is one of the grounds where they usually fish for soles.

4568. Can you give us anything in regard to proportion as to soles?—No.

4569. Except that they would be sure to be considerable?—There would be sure to be a good number.

4570. Would there be more soles than dabs or plaice?—No.

4571. Or equal?—It might be so; different hauls vary considerably. I could not give you anything more definite with regard to this particular haul without consulting my statistics, which I have at Liverpool. I think I may say these were all valuable food fishes. On August 25th, again in the Horse Channel, with a shrimp trawl out 1½ hours, there were 5,802 immature food fishes to 0.93.

Colonel Cotton-Jodrell—continued.

two quarts of shrimps. On February 4th, in the Blackpool closed ground (that is a small area that the Lancashire Sea Fisheries Committee had closed) with a shank net (that is a particular form of shrimping net) out half-an-hour, there were 1,199 immature food fishes to 3¼ quarts of shrimps.

Chairman.

4272. Are these small fishes thrown away, or are they landed?—These were experimental hauls. In the ordinary fishing the shrimper throws them away; but some of the fishermen, I believe, bring in what are really young fish a few inches in length, and either use them themselves, or give them to their friends, or sometimes even, I believe, sell them. What are known as cats' tongues appear occasionally in the market. They are occasionally brought in and sold.

4573. Is the large proportion of these fish that are thrown back alive?—Yes, I think so. From our experimental trawlings, certainly, the large proportion are alive, and a fair proportion are not only alive, but will continue to live. At my suggestion the Lancashire Sea Fisheries Committee have been lately going into that very point. In my report I suggested to them what to do, and they have been doing it lately. I have some of their results amongst my statistics, and they find that a very large proportion of the young fish, and old fish too, are not only alive, but if put into a tub where there is a circulation of water they will continue to live for an hour, and practically they are then all right if returned to the sea.

4574. Would not this particular difficulty with regard to the shrimp trawls be met by a bye-law compelling the return of the immature food fishes?—Yes, if you could get the men to carry it out.

4575. Because they must be allowed to shrimp for the purposes of their own trade, must they not?—Yes, unless you can cultivate the shrimps artificially to a large extent in our estuaries, which, I think, ought to be tried. Also, I think we ought to try catching them by traps, and in any other way that can be devised.

4576. But still this shrimping industry is a very large one all round the coast, with a large number of people employed and interested in it, is it not?—Yes, but if you can employ these same men in catching the same shrimps in such a way as not to take the immature food fish, it would be desirable.

4577. It would be a gradual process, would it not, to introduce a change in the system of capture?—Yes.

4578. Is your suggestion, then, that shrimp trawling ought to be prohibited altogether?—No: I would begin by prohibiting it on certain particular grounds, and then if that was found to give good results, as I think it would, and if it was also found that during that same time we were able to employ the shrimpers in catching the shrimps in other ways, then one might come in the end to completely prohibit shrimping by means of trawls on fish nurseries.

4579. Now, to come to the size limit, what is your view about the size limit for the catching of flat fishes?—My own particular view, whether it

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is practicable or not, is that every fish ought to be allowed to spawn; that there should be the "biological" size limit.

4580. Then you advocate the Biological Society Associations size limit, do you?—Yes. Do you mean the maturity North Sea line shown on the diagram?

4581. Yes?—Yes. We find plaice spawning smaller than that in our neighbourhood; it would do for a sole.

Mr. Harry Foster.

4582. But that is the North Sea?—I am not saying anything about the North Sea; I am speaking purely about the Lancashire fisheries. That size is unnecessarily high for us.

Chairman.

4583. What size do you take the plaice?—I should say 14 to 16 inches.

4584. But you must have one or the other?—I am taking the size at which they spawn; what may be called the average minimum.

4585. I want the size which you would put down below which they should not be taken?—Then I would probably say either 15 or 16 inches.

4586. And for the lemon sole would you take 12 inches?—Yes, that would do.

4587. What about turbot?—We have very few turbot or brill.

4588. And the soles?—Twelve inches.

4589. Would you do anything with regard to round fishes at all in the way of a size limit?—I think it would be useful to make a size limit, even though it is below the "biological" limit. That is a point on which I perhaps differ from other witnesses.

4590. But would you apply any size limit to round fishes?—Yes, I think I would; I would protect cod up to a certain size, although you cannot protect them up to the spawning size. It would be useful if you could protect them up to a certain size, as you would thereby give a chance for a greater number reaching maturity.

4591. Then you would sooner take a limit very small than no limit at all?—I would.

4592. Then with regard to close seasons, what have you to say?—I recognise that there are difficulties as to that, but I think it would be very desirable if one could have a close season. For example, just at the present time of year I think it would be very important if we could stop the trawling on certain special grounds off our Lancashire coasts for even a month.

4593. Is that in territorial waters or extra-territorial waters?—It is outside. There are particular grounds on which I have been working lately, nearer the Isle of Man than Liverpool, where the sole and plaice are spawning just now; and it would be, no doubt, very important if these grounds could be left alone.

4594. Are there many trawlers working on those grounds now?—There are.

Commander Bethell.

4595. Foreign trawlers?—No, I do not know of any foreign ones.

Colonel Cotton-Jacrell.

4596. There will be a good deal more later on, in another two months, will there not?—That is a point I really do not know about, as to the foreigners.

Chairman.

4597. Then, finally, do I understand that you would institute some fish hatchery experiments?—Certainly.

4598. Has anything of the sort been done by the Lancashire Board yet?—No, not yet.

4599. Do they intend to do anything?—They do.

4600. And I suppose your Lancashire coast would be a very favourable place for such experiments, would it?—We intend, as a matter of fact, to put the hatchery at the south end of the Isle of Man, at Port Erin, because the water is purer there, the coast is better suited, there being certain little creeks which we can enclose, and altogether it seems to be best suited for the purpose. But that is largely for convenience and local reasons. We shall bring the fish over, when hatched, to the Lancashire coast.

4601. How long do you mean to keep your fish before you turn them out?—I think that one ought to try to rear them. I have no doubt we shall commence by turning some out as soon as they are hatched; but I intend, in an experimental way, to try rearing them and feeding them, and I do not doubt but that in the end one would be able to succeed in that. I think the longer you can keep them the better. No doubt there are difficulties in the way of feeding them, but I do not think they are insurmountable. I am sure we shall be able to find suitable food.

Comander Bethell.

4602. Do you think that natural food is necessary for these small fishes?—No, I do not think it is necessary; but I will try natural food as well as artificial. I do not see any great difficulty; I think one might breed the natural food for them.

4603. Has that been tried at all?—Only experimentally; that is to say, one can keep in tanks, and get greatly increased numbers of, diatoms and copepoda, which are the food of these young fishes; so that I do not see that there should be any great difficulty in doing it on a much larger scale with suitable ponds.

Mr. Buchanan.

4604. With regard to the areas, would you be in favour of extended powers to limit, at all events, areas between Ireland and the Lancashire coast?—Yes, I think it would be very important.

Sir Albert Rollit.

4605. Can you indicate what are the causes which determine certain areas as nurseries; is it depth of water or climatic conditions? What does your experience lead you to say as to that?—I should think there are probably a number of factors; depth of water, temperature, and particular currents and food; probably all these influences operate.

4606. Those are the main determining factors, are they?—Yes, I should think those are probably the main determining factors.

4607. I understand

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Sir Albert Rolit—continued.

4607. I understand you to say that you would impose the biological limit of maturity?—I think that is the ideal limit.

4608. I am going to put to you a practical difficulty or two as to that. I understand you also to say that the spawning size is less off the Lancashire coast than in the North Sea?—I said that in respect to plaice, I think; I am not sure how far it holds good with regard to other cases.

4609. Do not these differences of species in different areas with regard to mature sizes create a very great practical difficulty in dealing with the matter from that point of view?—They do undoubtedly.

4610. And, I suppose, in the open North Sea, as distinct from a shelving coast, those difficulties would be increased?—Yes, no doubt.

4611. With regard to the nurseries and the like, would not you advocate scientific teaching? Certainly. I have already done so locally.

4612. And by analogy, very much, to the foundation of a degree in agriculture, as at Cambridge. I suppose it might be extended even to that point?—Quite so.

4613. You have been asked as to the rearing and sending out of the young fish. I think the experience of trout rearing would lead one to say that yearlings would be a very desirable size to launch young fry?—Yes, perhaps with trout.

4614. Two years, probably, would be safer for survival?—Yes; the longer you keep them the better chance they have of not succumbing to their natural enemies.

4615. Do you know that in trout culture the time they become yearlings is the time when they are launched?—Yes, frequently.

4616. As to the natural food, has not the experience of trout culture led to the conclusion that if you can supply natural food it is much better?—Yes, that I think would probably be the case with sea-fish. All I meant was that it might be possible to rear them on artificial food, but I would certainly try to get the natural food, and I think one could succeed in breeding it.

4617. Are there not particular species of diatoms which are preferred and which you might breed?—No doubt there are, but I cannot now tell you which.

Mr. Harry Foster.

4618. You said that some other means might be devised whereby shrimps could be caught other than by trawling?—Yes.

4619. Do you know of any other means?—On the coast of France they use several kinds of nets and traps, and I think these ought to be given a fair trial on our own coast.

4620. Do you know at the present moment of any equally effective means of shrimping other than the means at present in general use?—Do you mean on our coast, or all over the world?

4621. On our own coast?—There are no other means on our coast beyond the one in use.

4622. Do you know of any other means that could be adopted?—Yes, but I cannot say whether it would be as effective. It has not been tried yet. What I say is that it ought to be tried.

4623. You would not think it right, would you, to pass any legislation for stopping the present system until it had been proved that some

Mr. Harry Foster—continued.

other system could be successfully adopted?—No, but I would certainly urge local bodies to experiment with other means.

4624. Do you mean that at present we are not ripe on that question?—No; I think we shall be in Lancashire shortly; we are going to try them this summer.

Chairman.

4625. Can you tell me at all what is the annual value of the shrimping industry off the Lancashire coast?—No, I cannot tell you off-hand.

4626. Should you be surprised to hear that it amounted to something like 50,000*l.* a year?—No; I believe it is very valuable.

4627. Is there any other point you wish to give the Committee evidence upon, as I have no note of your proposed evidence?—I think you have asked me most of the points I have noted. I am very strong on this: that it is not enough to put restrictions on our fisheries; that one ought to hatch in addition, and that you must protect the young fishes in the nurseries. I have already given you my ideas upon that. Then I think the off-shore grounds on which the spawning takes place ought, if possible, to be protected; they are not within the territorial limits, and I fancy, for example, our Lancashire Sea Fisheries Committee have no power over them. I think such power ought to be given, because we cannot regulate the inshore grounds without having control over the offshore grounds too.

4628. That could be only done by fixing close seasons for those particular grounds, could it not?—Yes.

4629. Have you considered the difficulty of enforcing such things?—You have police for the inshore ground, and I do not think, in our district, it would be so much more trouble.

4630. Do you not think, when fishermen found particular waters were closed against them, that that would be an inducement to them to go there, thinking there would be more fish there and less competition?—I think a good deal might be done to educate public feeling amongst the fishermen, by lectures and that sort of thing. I think a great deal can be done in that way.

4631. But still your experience of fishermen is that they are rather a race with strong views of their own, is it not?—Yes.

4632. And they object to be interfered with, do they not?—Yes.

Colonel Cotton-Jodrell.

4633. I see Mr. Dawson said if you had a close time for soles, it would mean ruin to the fishermen; do you endorse that?—I do not know so much about the fishermen as Mr. Dawson does.

4634. Your evidence is chiefly confined to scientific investigation, is it not?—Yes, I rather tell you what I think would be desirable, ideal perhaps.

4635. But I see you agree with Mr. Fell, I think it was, in considering that the shrimp trawling is a great source of disaster to young fish?—There is no doubt about that. It is a very great source of disaster.

4636. When do you expect to be able to open these fish hatcheries at Port Erin?—We shall be

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[*Continued.*]*Colonel Cotton-Jodrell—continued.*

probably able to begin with the next spawning season, that is, next January or February. I fancy we shall have the fish hatchery erected during the autumn, and try and get everything into working order, the tanks well seasoned, and water running through them for a month or two in the winter, and start working in January or February.

4637. And in selecting that place, have you had regard to the temperature of the water?—Yes; temperature, specific gravity, and the cleanness of the water altogether. We thought the coast of Lancashire was too muddy, and the water too impure.

4638. Is it a place where there are naturally many young fish; is it a great spawning ground there?—The spawning ground is not far off. Of course spawning grounds are not near in shore at all, but they are rather nearer the Port Erin shore than the Liverpool shore; that is to say, the fish spawn near the Isle of Man. You have deeper water near the Isle of Man.

4639. What sort of depth is the place where you propose this inlet?—The hatchery will be completely on dry land. We will excavate to make a large pool, and enclose a couple of small creeks. They are quite shallow; not more than

Colonel Cotton-Jodrell—continued.

10 or 12 feet deep. We shall build a sea-wall across them.

4640. On a small scale like the Norwegian fjords; is that so?—Yes, but I do not think that that is necessary. I think you could establish a hatchery at a place where there were no creeks, if you simply dug out your pond.

4641. But you must have some pond, must you not?—You must have a pond for your spawning fish.

4642. You must have a place to turn your small fish into, must you not?—No, you want a place for the parent fish to spawn in.

4643. But after the young fish have hatched; what do you propose?—If you are merely going to hatch them, you can do that in a box in your hatching-house. As to rearing them up, if you wish to keep them longer, for a year or more, you require to have other ponds, in addition, into which you can turn the little fish.

4644. When would you propose to turn them out to sea?—I would see how we got on before coming to a decision; that is to say, if one found there was a great mortality at three weeks or months, say, it would be advisable to turn them out before such a period arrived.

Tuesday, 20th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Mr. Harry Foster.
Mr. Heneage.

Major Jones.
Mr. Mallock.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Renshaw.

MR. MARJORIBANKS, IN THE CHAIR.

Lord MONTAGU of BEAULIEU (attending by permission of the House of Lords), is Examined.

Chairman.

4645. You have had considerable experience of oyster culture, have you not?—Yes, I have.

4646. And you have large beds on your own property in the River Beaulieu, have you not?—Yes.

4647. Will you give us some description of what your fisheries are?—The Beaulieu River is a tidal river about seven miles in length from the village of Beaulieu down to the sea. There is a native oyster bed in the river; there is also a very long reach of about two-and-a-half to three miles near the mouth where oysters used to be laid for the purpose of being taken afterwards to the Whitstable fisheries. For many years it was left to the Alston family, who are large Whitstable oyster merchants, and I have heard that at one time as many as 100 boats were engaged in laying and dredging oysters in the river. Many thousand tubs used to be taken there and laid annually in the lower reaches of the river. Now I think it would be difficult to find 100 oysters in a day by careful dredging.

4648. What was the reason they gave up the lease?—The scarcity of oysters. I believe they used to buy their oysters all round the coast in the Solent and down to Falmouth, and even as far as Ireland, and the boats used to bring them every year in the autumn and winter to the Beaulieu River, and it being a close river they used to lay them there, and then they were dredged up in the spring, taken to the Whitstable beds, and laid there. Latterly, towards the end of the lease they could neither get the oysters nor could they buy them at a price which was remunerative to enable them to carry on their trade. The consequence was that they gave up the river, and it was thrown upon my own hands. I began then to turn my attention to see what could be done to carry on oyster fishery in the river.

4649. Their business, I understand, was one of growing oysters from a sort of intermediate stage?—Yes.

4650. They did not breed, but grew them?—Yes. The Alstons had a very large Whitstable

0.93.

Chairman—continued.

fishery of their own, and used to use the Beaulieu River as a ground to put their young stock on, to carry afterwards to the Whitstable beds, and there it was fattened; in fact the whole of the value of the river was really as a store ground in the intermediate time, between the winter and spring, for the oysters to get over the cold winter, and to be carried afterwards to the Whitstable beds. In fact, it acted in a certain sense in the same way as they do with French oysters now. They are brought from Arcachon in millions, and laid in the Whitstable beds, but the great difficulty they have now is the difficulty of wintering, and I am sure they must lose an enormous quantity of oysters every winter at Whitstable, from the fact that they are foreign oysters, and cannot get acclimatised between the time they are brought in the spring to Whitstable and the winter.

4651. Then at the time the Alstons had the fishery no oysters were brought from abroad there?—No, that is the fact. My view about that is this: When I said that the scarcity of oysters became so great, that is the point that I rather wish to lay principally before the Committee. I have been engaged myself in attempting to remedy this evil by trying to breed oysters artificially, but I do not wish to trouble the Committee with any remarks upon that point, unless they wish. But what I do wish to bring before the Committee is the scarcity of oysters on the native beds of this country.

4652. Do you think this scarcity arises from over dredging?—I am satisfied it is so. We know for a fact that all the native beds of oysters all along the coast are now almost unremunerative to the fishermen who dredge upon them, and that the quantity they can get from these beds is extremely small, nothing like sufficient to supply the market, or to supply the Whitstable people with the oysters that they require for fattening to put into the market. In fact, in my humble opinion, the goose that laid the golden egg has been killed, or very nearly killed.

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4653. Within

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Lord MONTAGU of BEAULIEU.

[Continued.]

Chairman—continued.

4653. Within your memory did the deep-sea beds at the mouth of the Beaulieu River supply sufficient spat for the beds?—I cannot say within my memory, but I know that when I first went to Beaulieu, and that was in the year 1865, the Altons did certainly carry on a certain amount of trade then, but it gradually declined, and therefore it is hardly within my memory to say that I recollect the time when there was a really good trade carried on with oysters brought from the different parts of the channel.

4654. Still, do you know of your own knowledge that such a trade was carried on?—Yes; and I am aware that in consequence of the failure of that trade the Beaulieu River was given up by the Altons.

4655. Can you suggest any remedy which you think might probably meet this state of things and restore the native beds?—I think we can judge as to that to a great extent by the experience of other people, and other countries. The same thing occurred exactly in regard to the French beds. There they had a very careful investigation made into the causes, and they came to the conclusion that exactly the same process of denudation of the oyster beds was going on in France as has gone on with us, and has ended in our having really no good native beds of our own. The consequence of that was this, that they passed laws by which they restricted the dredging of oysters from certain reserved beds for a definite time, and that was attended with very great success; in fact, it was the foundation of the enormous success of the Arcachon fisheries, and also of the other fisheries along the French coast right away up to Brittany to Auray, which is on the coast of Brittany, and all along the coast. The consequence of that is that they are able to supply us with oyster brood which we are not able to supply ourselves. The process has been carried on to in very much the same way in the Scheldt in Holland, and I fancy it is pretty well known what the process is. The Bay of Arcachon is a very large one, almost a sea lagoon. It is a very large bay with a narrow mouth, and there are great mud or sand flats on it which are dry at low water. Between these there are deep-water channels; in these deep-water channels there are great beds of oysters, and the Government has by law restricted the dredging up of oysters in these deep beds except at certain times and in certain ways, and then only a certain quantity of oysters are allowed to be taken off these beds. The result is that these oysters spat freely every year; the natural spat is collected on artificial collectors which are placed on the edges of these sand banks, and when they are collected they are taken off the tiles and put into "parcs," as they call them, which are made on these mud flats, and then they are not allowed to sell any of these oysters until they reach a certain size, in fact, what they call the three-centimetre size—from three to five centimetres. In fact, they have only lately allowed the three-centimetre size to be sold, but the best sizes are now got between five and eight centimetres. That is the process which is carried on there, and until they restricted the oyster

Chairman—continued.

dredgers from dredging up the brood oysters from these deep beds, the oysters were getting gradually extinct in that country. They have carried out the same system, I may say, throughout the whole of the coast of France; all the way round the same laws and restrictions exist. In fact they have what I should term great reserved beds of brood oysters on their coast which are not allowed to be dredged except at certain seasons, and then only a certain quantity is allowed to be taken off them.

4656. Then do you recommend as a first step the formation of these sort of sanctuaries for breeding oysters round our coasts?—Yes; we have the experience of the French to guide us in the matter. We see they have been successful, and there is no reason whatever that what is successful on the coast of Brittany should not be equally successful on the coast of Britain.

4657. If such a course were resolved upon would it not be necessary to appoint some roving commission to inquire into at what places these sanctuaries should be established?—I do not think it would be possible to do it without very careful investigation. I suggest it should be either done by a Committee of the Board of Trade or a Commission appointed specially for the purpose to investigate how this process should be carried on. I may say that all the books and matters which can be required to give every possible information on this subject are all extant; they can all be got from the French fishery departments. I have read a great many of them myself. We also have a most valuable treatise on the subject by Professor Hubrecht, who carried on breeding in the Scheldt. I should like to add that the Dutch in the Scheldt carry on the same process with equal success; therefore it is not a question simply of climate, because, though I am told that the Gulf Stream strikes that coast of Holland, and does warm the water to a certain extent in the months of July and August, yet I cannot believe there is such a very great difference in the water of the Scheldt and the water of the Isle of Wight or the water on the coast of Essex and the Whitstable beds. In the Scheldt the process is exactly the same as the process at Arcachon, the difference only being this, that I do not believe there is any absolute law in existence which prevents the oyster men from dredging up the native mother oysters, but they are protected naturally from the fact that they lie and live in all the stones and the rough ground at the dykes that border on the Scheldt. They cannot be dredged up out of those, and they are the mother oysters that produce the spat which floats in the mouth of the Scheldt. This spat is collected artificially on tiles, in the same manner in which it is collected at Arcachon. The result of that has been this, that they have every year a very successful quantity of spat deposited on these artificial collectors, natural spat, not artificial spat, which is taken off and placed in the ditches of the old fortress of Bergen op Zoom, which we know all about; there it is kept for the winter; after that it is taken up and put into the growing grounds of the Scheldt. Then they are afterwards dredged

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dredged up, and either sold to us as what they call "half-ware," or they are sent to us in the form of what they call the Anglo-Dutch oyster, which, next to the Whitstable oyster, is perhaps the best oyster that is put into the British market. Those, I think, are the two examples of the process by which this is done, and I cannot believe that such a process is impossible to be carried out in our own country in some sort of way. But even if we were not able to collect the spat on artificial collectors, we certainly could have reserve beds of mother oysters, which would replenish the beds which are allowed to be dredged.

4658. Are you aware that the new District Sea Fisheries Committees have this power?—No, I did not know that; but I would point out as regards that that I do not think it would be any use to close the beds unless you close them for a certain number of years to start with. I know, with regard to the French beds, they were closed something like eight years before they were allowed to be dredged at all. But when I talk of closed beds I do not mean that the whole of the beds should be closed. I mean that certain places should be buoyed out; those places which are found suitable, and which do not require to be dredged constantly to keep them clean, for the purpose of allowing a large stock of oysters to accumulate which would be, in fact, brood oysters.

4659. Would it not be well to bring this question before these district committees in the country?—I should think certainly it would be most advisable.

4660. Would the closing of these beds at all interfere with the operations of fishermen generally?—I think there is very little doubt if you proposed to close any bed the fishermen of the district would object, because for the time being there is no doubt their industry would be injured; but I believe they would reap the fruit later on, and it might be done by degrees. The whole of the beds need not be closed at once.

4661. Do I understand you would establish a system of rotation on the beds, so that one portion of the bed might be open and another closed at the same time?—I think that so much depends on the character of the ground, and that is why I think you require very careful investigation, because you might close one bed and it would all get silted up, and another bed you might close, but on account of the rough and rocky nature of the ground it would never silt up at all. It so very much depends on what grounds you close and which you do not. Then, with regard to the old breeding ground at the mouth of the Thames (Whitstable for instance), at the present moment I think I may say that Whitstable is simply a laying ground for a stock of oysters, chiefly foreign, and they are put there simply to be taken up again as soon as they are fit for market. I know they complain that they have no spat, but I think it is out of reason that they could have any spat, because the stock they have in their ground is chiefly young and it is laid there for the purpose of being marketed, especially now that they are

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dredged up in the summer time as well as the winter time. There is no possibility of there being any spat falling. It is like driving a hen off her nest just as she was hatching her eggs.

4662. Would your experience lead you to the conclusion that an oyster requires to be some considerable age before it is likely to spat successfully and in a fertile manner?—Yes, I think so; my experience rather leads me to that. I believe that an oyster three years old is really a spatting oyster and valuable, but I do not believe myself it is as good as an oyster four or five years old. I think there is more certainty about the latter than the former. Then I think we have been a good deal deceived in the fact that the French oysters which we bring over here are, no doubt, more advanced than our oysters. A French oyster three years old, will, I think, spat, and very likely the spat would be mature, which would not be the case with an oyster of the same age in England. We have been rather deceived, too, in the fact, because we thought if a French oyster is matured at three years, the English is the same, but that is really a scientific matter.

4663. Another way suggested for replenishing the beds is by artificial breeding. Have you any experience of that process?—Yes. I have tried that myself and I am sorry to say with very great loss. My experience is that of everybody else who has tried the same thing. At the same time I am not disheartened, and say we shall not arrive at some method of breeding oysters artificially. But I may say that I made some ponds of my own in the Beaulieu River, about an acre in size apiece, on the most approved principles, with sluices and arrangements for tiles and everything that could be possibly thought of. I investigated all the other breeding places in the neighbourhood of the Isle of Wight for breeding, and also the Hayling Island ponds, near Portsmouth, and I also made a journey to Arcachon on purpose to see their whole process. The result was this, that in the first year I brought the oysters from Arcachon and they were actually spatting when I got them. I was fortunate that year, and I believe I secured millions. But of those millions I do not think I got 25,000 oysters in the end. That was partly due to mismanagement, so I do not consider that really a good example. But I was also connected with the breeding ponds in the Isle of Wight at the Newtown river, where we formed our fisheries into a company. We had four or five years, in fact, nearly six years of attempts to breed oysters artificially. We were partially successful now and then, but never uniformly so, and I think that that is the experience of everyone who has had anything to do with the breeding of oysters artificially in ponds. We have not found out the real method of being able to make it a continuous success such as would enable us to supply the oyster beds of this country with young ware. Whether it is the climate, or the fact that oysters do not breed so well in a pond as they do in the open water, I do not know, and we have never been able to ascertain scientifically why it is that the spat which

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almost every year fills the ponds, will some years adhere to the collectors and mature, and other years will not. What happens is this, that the spat floats about in the water, say for a week, and then disappears, why we do not know, although it looks as if it is all right. I may say I do not think you can depend upon artificial breeding of oysters in ponds, at the present moment, as a means whereby you can be quite certain of supplying the demand for young oysters to lay in the beds for fattening purposes, and afterwards for the markets.

Commander Bethell.

4664. Is that from imperfect knowledge?—I think it is imperfect knowledge, and partly that we have not yet found out what the causes are of the oyster spat not maturing properly.

Chairman.

4665. Then you distinctly look rather to the natural spat from native beds than to the spat raised artificially in ponds, do you?—Yes, I think so certainly. I do not say we shall not solve the difficulty, but we have not solved it at present.

4666. We have had a certain amount of evidence with regard to the present system of close time. May I ask you, first generally, do you think it is desirable that there should be a close time for oysters?—Most certainly. I do not see how you can ever expect any oysters to spat or replenish the beds without there is a close time. At this time of the year all the oysters are more or less—I do not say all of them, because the young would not be, but all the mature oysters which are fit to spat are all what they call sick. They are just about now to exude the spat, and if disturbed at this moment, it is just, as I said just now, like driving a hen off her nest, and the moment she was hatching her eggs. Therefore, you cannot possibly expect the oysters if disturbed and knocked about at this time of the year to spat. Moreover, there is another feature about the oyster at this time of the year. This is the time of the year at which oysters make their growth, and the growth of the oyster is like thin silver paper round the edge, and if you knock them about and break them about, you wound the oyster, and it takes a long time to recover; in fact it stunts its growth. Therefore, I consider a close time is essential on any beds where you require the oysters to spat.

4667. You have heard the point which has been specially raised before this Committee, that whilst there is a very considerable consensus of opinion in favour of a close time to the native oyster, there is great objection raised to the extending of that close time to the foreign oyster which is laid down for temporary purposes; what would be your view with regard to a close time being extended to the foreign oyster?—If the foreign oyster is laid on a special bed, and simply dredged up for that purpose, I do not say that there is any harm in taking it up; but if it is mixed with other oyster, which you expect to spat, then I think naturally enough you must injure those that are in the bed already, and that you could not expect to have spat from those oysters in the close time. If anybody likes to eat the foreign oyster at this time of year, which

Chairman—continued.

I should not at all like to do, they may do it but if they are laid with other oysters that are intended to fructify, it stands to reason that you must injure them as well.

4668. Your opinion, however, would be, would it, that the results of the regulations which you sketch out would be to the eventual benefit of the fishermen generally, and that a greater amount of employment would be given to them, as well as a better supply of oysters to the public?—Yes, I think so. We have, as I said before, the advantage of the experience and experiments which have been carried out by other countries in this direction; we see their success, and I cannot, for a moment, believe that the circumstances of our native oyster beds are such that we cannot apply the same process ourselves with great success, and I think it would go a long way to restore the oyster fisheries, which are now exhausted, of this country.

4669. Is there anything else you would wish to bring before the Committee?—No; I hope I have not detained the Committee too long.

Mr. Renshaw.

4670. Can you tell us anything as to what the actual restrictions are which are in force at Arcachon?—I cannot give you the exact data but I believe the restriction is simply this, that they have a large bed of oysters in the channel in deep water, and which is only allowed to be dredged over a certain number of years, and only a certain quantity is allowed to be taken off. Probably the Board of Trade have all the information with regard to that, but as it is some time since I turned the information over myself I cannot speak with certainty.

4671. With regard to the other portions of the Arcachon beds, the shallow waters, there is no restriction put on at any time of the year, is there?—I think not.

4672. They are allowed to dredge all the year, are they not?—No. They are not allowed to dredge this time of the year.

4673. There is a close season, is there, corresponding exactly to our close season?—It is rather earlier, because the oysters there begin to spat in the month of May or June; in fact, there is a very considerable spatting there in the month of May. They are not allowed to dredge during the spatting season, and it is only the very large reserve beds they use, but which they are not allowed to touch at all except in certain years.

4674. Has the experience you have had with regard to the artificial breeding of oysters been the same experience that almost every other individual has had who has attempted it?—I think so.

4675. Do you know of any case in which there has been success really obtained?—There is no doubt there has been success every now and then, but it has never been a commercial success. I do not know of a single instance in which any of the gentlemen who have been called before you have been successful; I know about Captain Austin's work and the late Captain Johnson's work in the Medina, and I know there has been success obtained by them from time to time, but it has never been a consecutive success which you could depend upon as a commercial

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a commercial success, it has been only partially successful.

Commander Bethell.

4676. I understand you think if the oysters were properly managed even the present enormous demand might be satisfied, do you not?—I do not know that I can say that, because I think that the enormous demand for oysters now is met by the corresponding enormous import of oysters into this country, because we get them not only from France and Holland, but from America and Portugal. Of course, the American oyster we get over to this country is not a good class oyster; the high class American oyster does not come here, but the inferior class comes here and is largely sold on barrows, and so is the Portuguese oyster.

4677. At any rate unless some rules are made, are you inclined to think that the oyster industry in this country will fail?—I believe so, in time, I believe it has failed nearly already, and I might say this, that I think the British oyster, for certain reasons, I cannot exactly say why, there is no doubt whatever is hardly equalled, except perhaps by the choicest Blue Points or something of that kind. It is of very much superior quality.

4678. We had some evidence the other day from gentlemen who said they were quite sure there had only been, within the last thirty or forty years, two or three years in which the oysters had freely and largely spat, and they seem to have come to the conclusion that in English waters, at any rate, oyster do not spat every year in any quantity?—Yes.

4679. Is not that in conflict with your evidence?—I do not think it is exactly in conflict; I think we have had a series of years which affected the oysters just as agriculture is affected. No doubt we have had years when the water has been at a lower temperature than is good for oysters, but I think one of the principal causes of failure has been the want of the mother oysters to breed, and it is the gradual dredging up of the mother oysters which, to my mind, has reduced the quantity of spat.

4680. These other gentlemen undoubtedly, I think, said that it was their opinion that the oysters do not spat except at comparatively long intervals in any quantity, and they seemed to think that it was due to some peculiarity in the oyster, but I understand you to say you think it is not that?—No. I do not think that; all my observations would tend quite against that.

4681. And you think, do you not, that they spat every year?—Yes; I think that a certain proportion spat every year. If I were to put 10,000 oysters into a pond I do not think I should expect more than 25 to 30 per cent. of those oysters to spat. But you cannot be sure of that, for although some become sick and look as if they were fit, the spat you get from them sometimes is not matured.

4682. At any rate, in your opinion, if it is true that these oysters only spat in large quantities at considerable intervals, is it probably due to the fact of their being disturbed?—Yes, and to there not being sufficient quantity. If only 25

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Commander Bethell—continued.

per cent. of oysters do spat, which I think is very likely, and you have fewer oysters on the ground to spat, of course the natural result is that the proportion of spat is very much smaller.

4683. We also had some evidence that French oysters, when brought over and put down, do not spat?—I think that is quite possible, because I should think that the oysters which are brought over in the spring for the purpose of being marketed here in the summer are probably young and a small class of oyster. I would not myself buy them; I would never buy oysters less than three or four years old. But it is possible that these oysters are even younger than that, and, therefore, they would not spat.

4684. Have you yourself made any observations on the effect of the temperature of water?—Yes. I have tried that very much. Sometimes it is difficult to keep it cool enough, and sometimes it is difficult to keep it warm enough. You may get a cold shower of hail in the middle of your spatting season which will absolutely destroy the whole of the spat in your ponds. Then, again, the density of the water may be too great or too little, and altogether it is a delicate operation.

4685. Supposing it to be true that French oysters do not spat freely in our waters, would the temperature of the water easily be responsible for that?—I think the temperature of the water would probably have a very great effect. Supposing these French oysters are brought early in the year for the purpose of being marketed here in the summer, if they are brought early enough here and laid in our cold waters that would throw them back to such an extent that if they spat at all they would not spat till the end of the season, say, August, and, therefore, if they are marketed before August they would not be in a spatting condition. My contention as regards the French oysters brought here for summer consumption would be simply this, that if they are laid down on the beds with other oysters which are in a spatting condition you cannot take those up without disturbing those that are in a good condition to spat.

4686. In the Scheldt where oyster breeding is carried on it is a fact that the water along that coast is warmer than upon our coast all the year round, is it not?—I do not know that it is an ascertained fact.

4687. I have no observations, but I have always understood that the Gulf Stream strikes the continental side?—The Scheldt oysters do not spat until very late, say the end of July or the beginning of August, which is comparatively late. We generally expect the oysters have all spat in this country by the month of August, because you will recollect they have the oyster grotto days in August. It is always supposed that oysters are only put into the market in months with an R to them, but the barrow people I believe put an R into August.

4688. Some gentleman in the Isle of Wight gave us a description of his artificial breeding, and I understood he said he was able to make them breed every year with regularity?—Yes, I think he has; that was Mr. Johnson.

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4689. It was

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[Continued.]

Commander *Bethell*—continued.

4689. It was some one who told us he thought artificial breeding could be easily made a success?—If he said “easily” I think he said too much. I think it can be made a success, but we have not ascertained the means by which we can make it a certain success. I believe he has bred oysters, but with only partial success, and I do not believe anyone has had more than partial success.

4690. Is there any difficulty about feeding oysters in ponds?—You cannot feed an oyster artificially. He feeds on the small animalculæ which is in the water; there is no method of feeding him.

4691. I mean in supplying him with food, or would the water in your ponds contain enough of the peculiar nature of food which the oyster likes?—The ponds contain the water from the river, which has the natural food of the oyster in it.

Mr. *Heneage*.

4692. Have you heard, with regard to these oysters, great complaints have been made by those who produce them on the English coast, against foreign oysters being allowed to be sold at the time when they are not?—I have heard it said so.

4693. Have you heard any desire on their part that other countries should be asked to make a close time for oysters, as well as England?—No, I have not heard that; but I do not think the close time would affect that, because the oysters that are brought, as far as I understand, to this country, which are supposed to be marketable in the summer are generally brought over here not later than the month of March, which would be before the close time begins.

4694. I meant that the French oyster should not be allowed to be sold in England at the time the English oyster was not allowed to be sold?—I have not heard that point raised.

Mr. WILLIAM SPURGEON, called in; and Examined.

Mr. *Harry Foster*.

4695. I THINK you and Mr. Swan, who is to follow you, have been selected by the longshore fishermen and the shrimpers of Lowestoft to come and give evidence here is that so?—Yes.

4696. Can you tell me how many men; are engaged in the longshore trade at Lowestoft?—About 130.

4697. Can you tell me how many boats they own?—About 50.

4698. Are you yourself a practical fishermen?—Ever since I was 10 years old I have been engaged in longshore fishing and nothing but the longshore fishing, although I have been a few voyages in deep-sea trawlers.

4699. How long have you been so engaged?—Forty-two years.

4700. Do you know thoroughly the coast line from Lowestoft, north and south?—I think I can tell you pretty well every bit of ground by night as well as by day.

4701. Are you engaged at present in the shrimping trade?—Yes; I have three boats of my own.

4702. How far north and south of Lowestoft is the limit?—I have been as much as 30 miles each way, but as a rule 14 or 15 miles.

4703. The Committee have had some evidence, not with regard to the east coast, but with regard to parts of the west coast that the shrimpers do a great deal of damage to the small or immature fish; can you tell us anything as to that?—All I can see is as regards our nets. We kill some, of course, but more than 80 per cent. of our fish get returned alive again. Nowadays we scarcely ever get any fish, because they are trawled up before they come near us. When I was a lad I have got nets quite full of large and small fish, that is, when we used to go sole-trawling in the summer time. Forty of us used to go in the summer, and I have been entirely stocked with fish in the net.

Mr. *Harry Foster*—continued.

4704. Along the shore?—Yes; about three miles off the shore. But now, if we go and get such a thing as twenty or thirty pair in a night between three of us, we think we have done a wonderful thing.

Chairman.

4705. What is the size of your beam?—We work two in Lowestoft. We work two of 16 feet each, one aft and one forward. Some boats, the smaller boats, work a 17-foot trawl. The boats I am speaking of which work two are boats 23 feet long, draw about 4 feet of water, 9 feet beam, cutter-rigged, with a net out aft and a net forward.

Mr. *Harry Foster*.

4706. How long is your trawl down?—Not more than an hour at the longest, but in shrimping not very often more than half-an-hour. In sole-trawling we are longer down.

4707. When you bring up your trawl what is the practice with regard to these small fish?—We get them out as fast as we can for our own interest to clear the shrimps, because if we let them lay among the shrimps it would spoil them entirely. We get to work as fast as we can. There are scarcely any dead fish when our nets come up, and we put them into the sea as fast as we can.

4708. And do you say that four-fifths of the fish are well alive?—Yes; they skip away. I have had gentlemen with me often, going fishing with me. The wife keeps a lodging-house, and they are interested in this sort of thing.

4709. Can you give us any figures at all as to how many of these small fish you would bring up in your trawl with, say, a quart of shrimps?—Sometimes not a handful nowadays. We used to get a lot many years ago, before the trawlers came. I can remember when there

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Mr. SPURGEON.

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Mr. Harry Foster--continued.

was not a trawler in Lowestoft, not one. Now I think we have just 400; I am not quite certain. I am speaking, of course, of a deep-sea trawler.

4710. What kind of a net do you use?—We use a larger shrimp mesh net than anyone in England at Lowestoft and Yarmouth. They often laugh at us about our nets, but it does not matter how large the mesh is, the net closes as soon as ever there is a draught in it. Sometimes in our sole trawl nets they run about thirty rows to the yard, and I have been getting as much as a peck of shrimps in a sole trawl. The net closes entirely up when there is a draught in it. We go after shrimp very slowly; we do not want to go so fast in shrimping, and then no doubt the fish get out when the mesh is open, when we what is called drive the tide. But if you had a net with a mesh as big as your head the fish would be bound to get killed.

4711. Even the shrimps?—Yes.

4712. So that you mean that any alteration in the size of the mesh would not stop your catching the small undersized fish?—Not a bit. It would not be of the slightest use.

4713. Is there any line fishing done off the coast?—These used to be a great deal. I have been loading one of our boats with half a mile of cod lines in the autumn time.

4714. In October, November, and December?—Yes. We used to shoot half a mile. Now if we shoot we shoot two miles, and sometimes get one or two, and by chance perhaps a score of fish. You could get as much fish by throwing a line with about 20 hooks on off our beach as you could carry away, now there is none caught at all. We used to get whiting and codling and great black skate, but now we never see such a thing. If we are lining, and any one gets a skate on their line it is all over Lowestoft. The other day I caught a turbot, and I have not caught one I should think for at least 15 years, and it was all over the place that Spurgeon had caught a turbot, it was such a wonderful thing.

4715. What do you attribute that to?—To the trawlers. The fish never come in shore; I am confident of it. I am speaking the truth, and I know they never come in shore. I can take any one if they liked to come with me to grounds where we used to get this body of fish where a shrimp net has never touched and never do touch, but there is no fish on it or scarcely any.

4716. Is it not supposed that the dredging-works at the harbour of Lowestoft had something to do with driving the fish away?—I know it was suggested so, but I do not think so myself. They are doing more damage in the way of blocking the roads up.

4717. Are they not throwing some of the dredging on to where there are supposed to be beds?—Where they are putting their mud now I have got as much as would fill a trunk of soles. If you can find a hole, fish are bound to be there, that is why steam trawlers do so much damage. If there is a hole, fish will get into it, and a steam trawler can work up and down it, and that is why it does so much damage.

4718. You talk about throwing over these 0.93.

Mr. Harry Foster--continued.

undersized fish, what do you call an undersized fish, taking the sole?—We throw the little soles away, I should think between seven and eight inches when they are alive. We put them over as fast as possible. We have seen more of those this spring. We keep them if they are dead.

4719. But a sole of between seven and eight inches you would throw overboard if alive?—Yes.

4720. What about plaice?—I should think about seven or eight inches, we never measure them.

4721. What about turbot?—We hardly ever get any. We hardly ever see one now.

4722. I suppose I may take it from that that whether there is a law passed or not as to the size of the fish, personally it would not make any difference to you if a law were passed that no soles under 7½ inches should be landed, that would not effect you?—I should very much like to see it enforced, very much indeed.

4723. Do you think it could be enforced?—The big trawlers, fish would be dead when they would be caught, they tow so long.

4724. And do you say if they were dead there is no reason why they should not be landed, because there is a market for them?—Yes; there is a market for them, but a very poor one as a rule.

4725. But still they fetch something do they not?—Yes. You see the big trawls tow their nets sometimes in the winter time 12 hours.

4726. Then do you say first of all there would be no advantage because of the large number of dead fish that would have to be thrown away, and apart from that do you think such a law could be enforced if it were passed?—I do not see how it could be done; they must have officers all over the coast everywhere.

4727. To prevent them being landed?—To prevent them being landed.

4728. Have you had any experience in the North Sea fishing?—No, not in a trawler, only in herring fishing. My friend, who is here with me, used to fish in the North Sea when a lad, but I never did.

4729. Have you had any experience in shrimping on the east coast of hundreds or thousands of small fish being caught to a quart or two quarts of shrimps?—Never; there never was such a thing on the east coast.

4730. Such a thing as 5,785 immature fish to two quarts of shrimps?—There never was such a thing. I have been at it all my life time, my father before me, and my grandfather before that. We were all thoroughly brought up in the fish trade, and I can make a net, mend a net, and mend one.

4731. In your opinion is there any serious damage done at all to small fish by the shrimpers on the east coast?—No; because they do not trawl too long. Very often they go days and days and do not get enough to eat.

4732. What is the value of the boats and gear of the shrimpers and longshore fishermen?—I should think from two to three thousand pounds. My nets alone are insured for 250*l.*, and [my friend's the same.

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4733. Are

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Mr. SPURGEON.

[Continued.]

Mr. Harry Foster—continued.

4733. Are the boats and gear owned by the men themselves?—Yes, entirely. Some, of course, do not have but 10 or 12 pounds' worth of gear; but we have gear of all sorts.

4734. Is it a fact that a great many of the men engaged in the shrimping trade are men who have been at sea all their lives?—All of them, pretty well; many of them who have been smacking all their lives, start in the shrimping trade.

4735. And is that the only thing they can do?—Yes.

4736. And if they were interfered with would the consequences be serious?—Yes. A great many of them have been fishing all their lifetime, have saved money enough to get a boat, and that is how they get their living.

Mr. Buchanan.

4737. You said you would not object to return a sole of 7½ inches, did you?—Yes.

4738. But the size suggested to us of 10 inches you would object to, would you not?—Yes. A sole of 10 inches is good.

4739. And in the same way the plaice was suggested at 10 inches?—That is too large; a plaice of 10 inches is a good fryer.

4740. What has been suggested to us is that a sole under 10 inches and a plaice under 10 inches should be prohibited from being landed?—That is too large.

4741. Do you object to that?—Yes.

4742. You think it would be bad for your industry?—Yes.

Mr. Mallock.

4743. What do you do with the small sole which you land which are dead and you do not throw overboard?—We sell them.

4744. Do you find a sale for the small ones under seven inches?—Yes.

4745. Do you sell them in the market?—We do not get sufficient to sell any quantity. We merely get a little to sell for frying.

4746. Do you consider there is some food on them at all events?—Yes; there is some food on them certainly.

Mr. Heneage.

4747. Is it in your interest that you object to this size, or because you think it would not be a good thing for the public?—I think it would make very little difference to us, as far as I am concerned, but as I told you just now so many little fish are dead when caught in the big nets, and if they are thrown overboard they are of no use.

4748. If it was thought advisable to prevent fish being caught under ten inches for the benefit of the general public you would not mind it with regard to your own trade, I understand?—Yes; the ten inches would interfere with us because we go sole trawling in summer from Lowestoft, and in a little port a short distance from us there are over 40 who go sole trawling.

4749. Then it is in your own interest you object, is it?—Yes.

Mr. Harry Foster.

4750. Not as a shrimper?—No, but as a sole trawler; we go after shrimps and soles as well.

Mr. Heneage.

4751. But you are, are you not, an inshore fisherman?—Yes.

4752. And it is in the interest of the inshore fishermen you say they should not be prevented from being sold?—Certainly.

Major Jones.

4753. Do I understand you to say that if a seven-inch sole is dead when brought on board your boat you sell it?—There are none dead; we do not tow long enough for them to be dead.

4754. Then if the sole is alive you throw it overboard, do you not?—Certainly.

4755. Yet you say if you took it ashore you could sell it, do you not?—Yes, we could, but it is to our interest that they should live till later on in the season, because we hope to catch those fish larger when we go sole trawling. It is to our interest to put them over as fast as we can. If we see any little soles we walk them over in a hurry, and very quick too.

Chairman.

4756. Do you consider the fishing has fallen off on the ground you fish?—Yes; on inshore fishing.

4757. You have always fished in this particular way all your life, have you?—Yes.

4758. Since when did you notice this falling off?—It has been falling off gradually the last 20 years.

4759. Can you tell me this; 25 years ago what did you consider a good week's work as represented in money?—We get more money now than we did then; we get more money for a small quantity of fish than when we used to catch such a large quantity.

4760. Do you find your trade more profitable than it was?—Yes. For instance, we used to sell soles by the score when I was a lad, and a sole had to measure nine inches before it was a sole. Under nine inches we called it a slip, and we used to sell them at 4d. a score.

4761. Used you to catch a great many under nine inches?—We used to at that time of day.

4762. How small used you to catch them?—Then we never caught any under seven inches, though I never measured, but I am certain of it. We used to have a mark cut on the thwart for the nine inches, and for all over the nine inches, even if they went over 20 inches we never used to get more than 4s. 9d. a score. I have sold bushels and tons of soles for, I should think, not more than 15s. to 1l. a trunk.

4763. Now what do you get for them?—Sometimes 7l. and 8l.

4764. But you do not sell them by the trunk do you?—Yes; we put them into trunks, and if we get a half trunk or so we put them on the market.

4765. Who do you sell them to?—The salesmen sell them for us.

4766. You do not sell them to any particular firm,

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Mr. SPURGEON.

[Continued.]

Chairman—continued.

firm, do you?—No, they are sold by public auction.

4767. What do you consider an ordinary fair day's catch when you are soleing?—If we get about 1*l.* to 30*s.*, that is a good night's work. We fish for soles at night.

4768. How many soles does that represent?—Sometimes not above 10 or 14 pairs.

4769. What used you to consider a good nights' work, in money, 25 years ago?—If we used to get 14*s.* or 15*s.* a day we thought we did a wonderful day's work.

4770. How many soles did that represent?—Three or four score soles, at 4*s.* 9*d.* a score, if they came over nine inches, and if they were under nine inches we used to sell them to people round about at 4*d.* a score.

4771. In fact, then, in those days you used to catch twice as many as you do now?—Four times as many.

4772. You say you considered that 14*s.* to 15*s.* was a good day's work, and now you would get 30*s.*, would you not?—Yes; but sometimes now we get as much as 3*l.*; but some nights we do not get anything.

4773. But you are quite clear about the falling off, are you not?—Yes.

4774. What would be your suggestion of a remedy for the falling off?—I cannot see any remedy, except that there are too many craft for the sea. I do not see how you can avoid it. The sea is no larger, and the craft keeps on increasing.

4775. You would not be in favour of any restriction, would you?—Certainly not. I cannot see what you can do.

4776. Is there anything else that you would like to tell the Committee?—No; anything you like to ask me I will try to explain as far as I am able. As to line fishing, I might say that little codling used to be so numerous on our shores in the autumn time that we used to go with a drag net, one man on the shore and two men in the boat, and I have seen the net so that it could not come ashore with such a lot of fish, and now, as I say, there is nothing there.

Mr. JOHN SWAN, called in; and Examined.

Mr. Harry Foster.

4785. ARE you engaged also in long-shore fishing at Lowestoft?—Yes.

4786. Have you been engaged in it long?—I should think now about 22 or 23 years.

4787. Have you a boat of your own?—Yes, I have three.

4788. I think you were chosen, like the last witness, to come here to speak on behalf of the shrimpers and the longshore fishermen at Lowestoft, were you not?—Yes.

4789. Do you know the coast well?—Yes; both night and day.

4790. You say you have been 23 years on it, do you not?—Yes; between 22 and 23 years.

4791. Have you had any other experience; have you been in the North Sea?—Yes.

0.93.

Mr. Harry Foster.

4777. How long is that ago?—I should think that is 30 years ago; my father has been drowned more than 20 years, and it was during his time.

4778. Is the view you have expressed about the wisdom of throwing these fish overboard under seven inches a general view in your neighbourhood?—Mostly, but there are a few I should be very sharp on if I had anything to do with them just as with small shrimps. There is a lot bring small shrimps ashore they have no business to.

4779. Men who cannot see beyond their noses?—Yes.

Dr. Clark.

4780. I understand you would be in favour of returning those small fish, would you not?—Yes, if alive; but if they are dead, there is no good in throwing them overboard. I never was a deep-sea trawler, but I know a man who tells me he has seen tons of little fish thrown overboard in a week.

Mr. Harry Foster.

4781. Was that from a steain trawler?—From trawlers generally.

4782. From deep-sea trawlers you mean?—Yes.

4783. So that you say, do you not, even if they were forbidden to land these undersized fish, the damage is not done inshore at all, but is done by killing the fish at sea?—Yes; they never come inshore, I am certain of it. I have had experience enough to know, and have watched these things. As regards fishing no man will ever fathom it; I will defy him. My experience as regards fishing is this: sometimes we think we know this and that, and shall do this and that, but something happens to prove we are all wrong.

4784. Do you mean as to the habits of fish?—Yes. Often I have been getting lots of fish in fish in one drag, and then, although I go close over the same ground again, I have not caught anything at all. It is just the same in herring fishing, and we cannot fathom it at all.

Mr. Harry Foster—continued.

4792. How long were you there?—About five or six weeks in the summer, and about five or six weeks one winter in the big trawlers, when I was a boy.

4793. They had not very much steam trawling then, had they?—None at all then.

4794. You have heard the evidence that Mr. Spurgeon has given. Taking it as shortly as I can, do you agree with what he has stated?—Yes; with every word of it.

4795. Has it been your experience there has been a large falling off in the number and size of fish?—Yes; in every way.

4796. What do you say about the question of throwing overboard the undersized fish?—We always look out and get them over as quickly

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Mr. SWAN.

[Continued.]

Mr. Harry Foster—continued.

quickly as we can, because we think it is for our own interest. We go shrimping so long, and then, when the boats make up the mid-summer voyage, we go trawling; we take the shrimp nets out and put the trawl nets in, so that we think of getting the small fish grown larger at the latter end of the year.

4797. You think it is bad policy, do you not, to keep these fish under a certain size?—Yes.

4798. What do you say should be about the size for a sole?—Seven or eight inches, I should think, would be a pretty good size.

4799. That is to say, if you thought that a fish was only about eight inches long, you would throw it overboard if it was alive?—Yes.

4800. And you do that, do you, because you are also engaged in the sole trawling later in the year?—Yes.

4801. And you hope to get it then, do you not, as a larger fish?—Yes.

4802. When you are shrimping are many of these fish dead when you bring them up?—Very few. There is a chance time when you would get a few, but we do not tow long enough and get enough bulk of shrimps.

4803. Then it would not be true to say, would it, that you commit any serious destruction of the small fish?—Certainly not; we do not tow long enough on the ground and it is smooth ground where we tow, and the nets are not down longer than threequarters of an hour. We can get through the ground that we work in an hour.

4804. Would there be any advantage in your opinion in altering the size of the mesh of the net?—Not any at all. You may get it as big as you like, but it would be sure to close up when you are towing the net along.

4805. Is there any suggestion you can offer, or any recommendation you can offer the Committee which would stop this reduction of the number of fish?—No, I cannot, unless you do away with some of the smacks.

4806. Do you think it arises from over-fishing?—Yes. The sea is over-fished.

4807. Do you see any means of stopping that?—No; I do not see any means of stopping it. They keep on building smacks.

Dr. Clark.

4808. You would not like to be stopped yourself, would you?—No. But if fishermen had kept to themselves, and let fishermen work the craft, it would have been all right, but I think there are too many outsiders in it.

Mr. Harry Foster.

4809. Am I correct in saying that the general view of the longshoremen and shrimpers in Lowestoft is that they want to be left alone?—Yes.

Mr. Pinkerton.

4810. Do you mean that they want it all to themselves?—They do not to get it all themselves; it is only last Thursday I saw an Ostend steam trawler not two miles from our shore.

Mr. Harry Foster.

4811. Trawling within two miles of our shore?—Yes. Right abreast of Lowestoft.

4812. Was there a gunboat about anywhere?—She went past and took no notice of her.

4813. What was the name of the gunboat?—I do not know her name, but I was standing there and saw it.

4814. Did you make any complaint?—We were asking about it, but we did not know where to go to about it. There have been about 15 or 16 there all this last week.

Mr. Mallock.

4815. What is the limit there?—Three miles.

Mr. Harry Foster.

4816. Can you tell me what the Ostend boat was?—No.

4817. Did you take her number?—No. I was standing on the shore, and she was only about half a-mile from the buoy which lies there at the channel 4818. Do you know that was an offence?—Yes. But they have been there over a week now.

4819. I wonder some of you had not taken the number of the boat. You know there is a remedy, do you not?—We were saying if it had been at Southwold they would have been after them with a yawl.

4820. With reference to the catching and bringing up in the net of these small fish, is there any considerable quantity brought up when you are shrimping?—Very little. [Sometimes there is none at all. I have been trawling all over our ground and have not got a handful, small and large.]

4821. Do you wish to make any statement about your experience in the North Sea?—When I was a boy I went to the North Sea in the summer months; we were fishing on the Dutch shore, and I have seen the deck hands more than an hour shovelling the dead fish overboard. At that time it was no good bringing small fish on shore; there was no sale for them. Now they keep all such things as they used to throw overboard, and in the winter time, when we have been working down on the beds of the North Sea, we get a lot of small fish; it is just the same then. They flee off from the shore in the summer time, and get into the holes in the winter time, and these steam trawlers work them any how. A smack could not go without the wind, but a steam trawler can go straight anywhere, and work the ground up any way.

Major Jones.

4822. You heard Mr. Spurgeon say that it is his custom to throw the seven-inch sole overboard when living, and take it ashore and sell it when it is dead, did you not?—Yes.

4823. Is that your custom also?—Yes, and of the biggest part of the people about our place.

4824. But you know that other fishermen do not, do they?—Not all of them. I should not like to say all of them did it, because there is a time, perhaps, when you have a sick wife at home, and you would take a little bit home for her.

4825. But

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Mr. SWAN.

[*Continued.*]*Major Jones*—continued.

4825. But do not they take them on shore to sell?—Well, if dead they do.

4826. I understand Mr. Spurgeon to say that not all the fishermen throw the seven-inch sole overboard?—They do not, all of them.

4827. Some of them take them ashore, do they not, and sell them?—Some of them do.

4828. Is it not very self-denying on your part not to do so?—I do not know. We think if we throw them overboard we shall get them later on.

4829. With regard to the size of the fish now and 20 years ago, is the average lower now than it was then?—No, I should think not.

4830. Do you think the average size of sole caught now is as good as it was 20 years ago?—Yes; but I do not think there is half the quantity caught. When I first went into the trade you could catch four times as many as we catch now, and more than that.

4831. The quantity has fallen off, but the average size is maintained, you think?—Yes; I do not think there is much difference in the size; in fact, I think there is a better size now.

4832. You do not know of any other good way to catch shrimps, do you, than that practised by you?—No. We work a good large net now.

Dr. Clark.

4833. Did you ever try the stake net at all for shrimping?—No.

Mr. Renshaw.

4834. Is the average earning of a fisherman at Lowestoft now as big as it used to be?—Yes, I think so; better, I believe.

4835. That is to say, that each fisherman earns a larger amount relatively than he used to?—I think they earn more money than they did years ago.

Mr. Renshaw—continued.

4836. So that practically that is the probable cause of the increase in the number of fishermen, is it not?—Yes.

4837. If anything happened to reduce the average take, no doubt, naturally the number of boats would be reduced, would it not?—Yes; you see we get more for our fish now than we used to.

4838. In point of fact the industry in your neighbourhood is in a more satisfactory state than it was when you joined it, is it not?—Yes.

Mr. Buchanan.

4839. If a law were passed to prohibit the sale of soles under 10 inches it would interfere with your industry, would it not?—Yes.

4840. A considerable number of the soles you catch are only about that size, are they not?—We do not get many of that size, what we get we get very large. Sometimes we do get some of the others, but not a great quantity.

4841. Do you find a good market for them?—Yes.

4842. And do you think that would be too large a size to prohibit?—Yes.

Chairman.

4843. Do you agree with Mr. Spurgeon that there is a considerable falling-off of fish on the ground you fish?—Yes.

4844. Have you, like him, any remedy to suggest?—No, without it is over fishing.

4845. You think it is caused by over-fishing, do you?—Yes, I do.

4846. But I understand you cannot suggest any remedy for that, can you?—No.

4847. You would not propose to interfere, would you, with any of the modes of fishing that are prevalent off your coasts?—No.

Thursday, 22nd June 1893.

MEMBERS PRESENT :

Mr. Buchanan.
Dr. Clark.
Mr. Harry Foster.
Mr. Heneage.
Major Jones.
Mr. Kearley.

Mr. Mallock.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Renshaw.
Sir Albert Rollit.
Dr. Tanner.

MR. MARJORIBANKS IN THE CHAIR.

Mr. JOSEPH DYER, called in ; and Examined.

Mr. Mallock.

4848. You are a practical fisherman, and reside at Brixham, do you not?—Yes.

4849. Are you engaged now in the fishing business?—I have not been actually engaged for some little time, but I get my living entirely by trawl fishing.

4850. You have been within the last year or two?—Yes.

4851. Do your sons work your own vessels?—Yes.

4852. How long have you been fishing at Brixham?—Twenty-four years at Brixham and four years in the North Sea.

4853. Twenty-eight years altogether, do you mean?—Yes.

4854. Is your vessel a trawler?—Yes.

4855. One of the small ones?—I have one small one of 23 tons and one of 39 tons.

4856. Are they both what you call the bumble bees at Brixham?—No, the bumble bees range from 15 to 23 tons.

4857. When were you engaged in the North Sea?—Ten years ago was the last time I was in the North Sea.

4858. How many years have you fished in the North Sea altogether?—I was apprenticed out of Ramsgate the first four years, and then I went to Lowestoft. After that I came to Brixham and I went up 10 years ago for three successive years chartering vessels for the spring seasons.

4859. Then you have not been in the North Sea of late years?—Not for the last 10 years.

4860. Are you well acquainted with the fishing as carried on by the Brixham men?—Yes.

4861. Do you consider that you are authorised to speak for the actual fishermen there?—I canvassed the smack owners and fishermen last week, and am authorised to speak for them.

4862. You are one of their members on the Devon Sea Fisheries Committee Board, I believe?—Yes.

4863. Do you consider that in Torbay there has been an increase or decrease of fish since you have known it?—Taking Torbay particularly, I should think it is much about the

Mr. Mallock—continued.

same as ever I have known it; but taking our waters generally, I should think there is an increase.

4864. Do you think there is an increase outside Torbay?—Yes.

4865. And that you do not suffer from the decrease we have heard several witnesses speak of?—No; in fact we have never caught so many place and lemon sole in the West of England as were caught last year.

4866. Then altogether, taking an average of five or six years, do you consider that the earnings of the Brixham men have been as good as they formerly were?—As far as we have been able to fish, and the time we have been able to fish, much better taking; this year ever since March we have not been able to fish because we have had no wind, but while there is wind the earnings are really better than they were.

4867. Taking the last four or five or six years altogether, are the fishermen earning as much?—Yes, quite as much as they were formerly.

4868. Have the trawlers increased very much in numbers in the 24 years you speak of?—They have increased more than double.

4869. Has the price of fish increased?—Unfortunately that is the only thing we have to complain about. When we have one day's breeze and have a catch we cannot get anything at all hardly for it; whiting is only 4s. or 5s. a trunk just brought ashore.

4870. Do you mean because the supply is larger than the demand?—Yes, because the supply is larger than the demand.

4871. Is not the fish all sent away at once?—It is all sold on the market.

4872. You were at the Fishery Conference three or four years ago, and did you hear the suggestions made with regard to restricting the size of fish to be sold?—Yes.

4873. Do you think there would be any advantage in that?—I believe it will be an awful waste and no advantage to the small fish or protect the small fish in any way until there is some remedy found; in fact I demonstrated that at the International Conference, for although

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MR. DYER.

[Continued.]

Mr. Mallock—continued.

though the North Sea ports had made a mutual arrangement among themselves not to touch the small fish, I have it on evidence that they could not prevent themselves they ; are bound to catch it, and therefore it will be destroyed.

4874. Do you mean the fish would be caught whether it was saleable or not?—Yes, whether it was allowed to be sold or not, and then of course it would be destroyed.

4875. Is this small fish saleable?—We do not get anything but what is saleable with us.

4876. Do you mean all the fish that you catch you can sell in the market at Brixham?—Yes, that is the kind of fish that is mentioned. Of course we catch a great many fish that are not saleable ; but all soles, plaice, lemonsoles, and brill, are saleable with us.

4877. Whatever size it is?—We do not get them so small.

4878. Have you any size to suggest that you should be restricted to?—No.

4879. Do you remember at the Conference three or four years ago the fish being produced from various districts?—Yes.

4880. And a comparison being made of the soles from Torbay with others, and it being generally admitted that an 8-inch sole from Torbay was a much better fish or as good a fish as a 10-inch sole from anywhere else?—That was so.

4881. Was the opinion at that Conference unanimous amongst the foreign representatives with regard to limiting the size of fish?—No ; in fact I have heard the Report of the Conference, and the representative from France was quite adverse to it, and so were all the foreign representatives, especially as to the size.

4882. By whom are the small fish caught along that coast chiefly ; the large trawlers, or the bumble bees?—Are you speaking of the North Sea?

4883. No, your coast?—If there is any difference, perhaps the small trawlers catch most ; but we find as a rule we get nearly as much small fish away out 8, 10, or 12 miles to sea, as we do round the shores, unless it is in certain months of the year.

4884. You mean, do you, that most months of the year, your 39-ton vessels catch as much small fish as the smaller ones?—Quite so.

4885. Is there much small fish destroyed by other modes of fishing do you think, besides the trawling?—Yes ; more particularly by the long-haul seines, drag seines.

4886. I suppose fish is not destroyed by the hookers?—No.

4887. If this small fish was not saleable what would be done with it?—It would have to be thrown overboard.

4888. Do you think it would be caught all the same?—It would be bound to be.

4889. In what state would it be if thrown overboard ; would much of it live?—No, 90 per cent. of it would be dead.

4890. Would there be any difficulty in picking it out ; would it interfere with the working of the vessel?—Of course it would entail a great amount of labour and trouble to do so.

4891. And do you think the only result would be more trouble and a waste of food?—Yes, there really would be waste.

0.93.

Mr. Mallock—continued.

4892. Do you really think they would still catch as much as they do now?—I am sure of it.

4893. Who would suffer from any such restrictions do you think?—Fishermen in general?

4894. Of all kinds?—Yes, of all kinds.

4895. You say you consider there has been no decrease of fish, or rather, I think you said there was an increase of fish along the South Coast outside Torbay?—Of different kinds I am sure there has been a great increase. As I say, take plaice and lemon sole.

4896. We have had evidence here that there is a considerable decrease elsewhere. I do not want to ask you about that, but I want to ask you about steam trawlers. Are there any steam trawlers along your coast?—None.

4897. You do not consider the steam yacht at Brixham one?—No ; she is a steam yacht, and although she has a beam alongside, she might not trawl once in a season.

4898. Are there any in Plymouth or Falmouth? There are none at Plymouth ; I think there are two at Falmouth.

4899. Is that one of the reasons you think why you did not complain of a decrease in the fish as they do in many other parts?—Quite likely.

4900. Do you know anything about steam trawling?—I never was in a steam trawler.

4901. Have you any reason to suppose irrespective of the power of the steam trawlers that they destroy more small immature fish than others?—I should think with the appliances they have got, the length of beam, and all that they have certainly a great deal more destroying power ; if there is more catching power there is more destroying power.

4902. Irrespective of the power do you think there is anything special in their nets and so on?—Yes, the length of beam ; and some people talk about the dingles they have on their foot ropes, and so on, but I cannot say much about that.

4903. You told me you were a member of the Sea Fisheries Committee?—Yes.

4904. Does the Devon Sea Fisheries Committee itself work satisfactorily, do you think?—No.

4905. What is your complaint about it?—At least half of the committee do not know anything at all about a fish or a net, and the consequence is that those that have to get their living by fishing and are thoroughly interested cannot get themselves heard and are over voted on the committee. In fact it is creating freeholds. It seems a very strange thing to me as far as the fishery is concerned all over the South Coast, especially in Devonshire, to give one class of fishermen a freehold all the year round to the exclusion of another class of fishermen all the year round.

4906. How do you mean that you are not represented properly ; do you object to the mode of election?—I do not know any more than that there are several members that are appointed by the Board of Trade, and several members who are appointed by the county councils. In fact we have coal merchants, farmers, a lawyer, and a grocer, appointed fishery

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members

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Mr. DYER.

[Continued.]

Mr. Mallock—continued.

members on the Fishery Committee, and we are out-numbered.

4907. What do you mean by giving one class of fishermen a freehold, as compared with others?—They passed a bye-law to exclude trawling all the year round, of course for the prevention of the destruction of immature fish in the bays; but still the drag seines, the long-haul seines; in fact all other kinds of fishing is allowed all the year round which will destroy and does destroy, even while trawling goes on, more small fish than the trawlers do.

4908. With regard to the Sea Fisheries Committee have you any suggestion to make as to how the Board of Trade members should be appointed?—No, I have not thought about it.

4909. You know, I suppose, that the county council has to pay the expenses?—Yes, and it is quite right they should be represented.

4910. Have you fished in the Bristol Channel lately?—Yes, two years ago.

4911. Is there much destruction of young fish there do you think?—Very largely, particularly among steam trawlers that have been going right into the bights and creeks from Trevoise Head to Haitland Point and round that way. A great amount of very small fish get there, but the sailing trawlers cannot get there.

4912. The Brixham smacks go to the Bristol Channel a good deal do they not?—Yes.

4913. You have told us that you do not think there would be any advantage in limiting the size of fish that should be sold. Do you think there would be any advantage in a close time?—Yes; in fact Brixham has advocated a close time for the bay for Brixham trawlers for a good many years. I have a report of Mr. Frank Buckland, a very extensive report on an enquiry he held in 1879, and we advocated it then.

4914. Did Mr. Buckland visit Brixham then?—Yes.

4915. Was the evidence that was given before him to the effect that the Brixham men wished a close time?—Yes.

4916. Would there be any advantage do you think in restricting certain areas. I do not mean necessarily as large an area as Torbay; but certain spots or breeding grounds?—Yes, I believe it would be beneficial.

4917. This Committee, as you know, was appointed not only with regard to the sale of undersized fish which is what we have heard most about up to now, but with regard to the improvement of sea fisheries in general. Have you any suggestions to make to the Committee with regard to general improvement?—No, I should not like to take upon myself to make any suggestions.

4918. What do the Brixham people think about the steam trawlers?—It would not be fair for us to say anything against steam trawlers as we are not troubled with them.

4919. But you would not like to see them there; that is the feeling in Brixham, is it not?—I suppose it is really, but so far as I am concerned I do not think that I care much about it.

4920. Have you any other evidence you wish to give?—No; only we do feel at Brixham very

Mr. Mallock—continued.

strongly on the point, because it is acknowledged not only by the gentlemen who attended so largely at the Hull Conference, that our fish on the South Coast is very different to the North Sea fish. In fact at the last year's conference, it was said if legislation took place on this question, we should be quite prepared on the South Coast to support a limit for fish, of a size 2 inches less than that to be fixed for the North Sea. Still we feel that legislation on the question until some means for the prevention of the destruction of the fry is found, is really useless. The small fishes will then be washed, whereas today it is saleable and poor people have a chance of getting a fish where they cannot afford to buy a reasonable sized fish. The only thing we have to complain of at Brixham is the very bad price. Last Monday week was the only fishing day we had for some time, and the prices went down awfully low.

Mr. Buchanan.

4921. You are opposed to any limitation on the size of fish I understand?—Yes.

4922. And you think it is not wanted on the South Coast, do you?—It would be beneficial if means were found to prevent the destroying of it. Our contention is it should not be destroyed, and thrown overboard, while if it is caught it now can be used for food.

4923. Do you think even if such a restriction were imposed it would not be observed?—Yes, I think it would be observed.

4924. But the fish would be destroyed, would it not, all the same?—Yes, it would be bound to be caught.

4925. And destroyed?—If it is caught in the trawl it is destroyed.

Major Jones.

4926. You say do you that 90 per cent. of the immature fish thrown overboard die?—Yes.

4927. What is the basis of your statement?—Twenty-eight years' experience.

4928. Have you made any experiments, so as to get at this percentage?—No, I have not.

4929. Are there certain areas within your fishing grounds, where the small immature fish are chiefly caught?—I do not think as far as we are concerned, that I should say there is anywhere, except that is right inside of the bays, where it is almost impossible to trawl. Of course, we catch a lot of small fish, I do not deny that; but the principal places would be right inside our bays, and as to that, we have been quite willing that no trawling should take place there, and then it will not be caught.

4930. Then there are, are there not, certain special areas where the small fish are chiefly caught?—Yes. You cannot catch them by trawling, because you cannot trawl there for three or four months during the year, round our breakwater and inside right over across the bay, there are a tremendous lot of very small flat fish, plaice and dab; in fact, right round the shores of the bay.

4931. And do you say you cannot fish on these areas?—Not where they are in the bight of the breakwater, from the breakwater right round.

4932. Why

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MR. DYER.

[Continued.]

Mr. Heneage.

4932. Why do you say that it would not improve the amount of the fish in the sea if the sale of small and immature fish was stopped?—For the reason that it would still be destroyed.

4933. But would vessels go to places where there is a great quantity of these small fishes to catch them, if they were not able to put them on the market?—But as far as we are concerned on the south coast, we have no such grounds. Of course in the North Sea they have.

4934. Then, of course, you are speaking really and entirely about local grounds, and local fishing, are you not?—Of course I am speaking for where I am sent from.

4935. Then you are speaking about what is really local fishing, are you not?—Yes; I can speak of course about fish being destroyed in the North Sea.

4936. My point is that you are simply speaking about the grounds, 15 or 20 miles from your home?—Yes.

4937. And that the class of fishing, is that small boats, family boats I believe they are called to a great extent, go out for a short time in almost territorial waters, and just outside territorial waters?—Yes.

4938. And in the greater part of the waters where you fish the District Fisheries Board have power to make their own bye-laws, have they not?—Yes.

Mr. Mallock.

4939. There has been a bye-law passed by the Devon Sea Fisheries Committee prohibiting

Mr. Mallock—continued.

trawling within certain areas, has there not?—Yes, all round the Devonshire coast all the year round.

4940. What is the distance?—From Rame Head to the West of Plymouth; across to the Mew Stone to the east side of Plymouth, from the Mew Stone up to Bolt Tail, from Bolt Tail to Bolt Head, from Bolt Head to Start Point, and so on round. Then on the North Devon Coast it is just the same. Then all other modes of fishing are allowed especially with the drag seine, and the drag seiners are the people who catch the small fish, and destroy a lot of it. Of course our Committee still allows that to continue.

Chairman.

4941. I understand the general drift of your evidence to be that, so far as the south coast is concerned, there has been no falling off in the fisheries?—No.

4942. But on the contrary you catch as many fish, if not more, than you ever did, do you not?—Yes.

4943. Therefore, there is no ground for suggesting legislation on account of the depletion of the fishing grounds?—No.

Mr. Heneage.

4944. And the fish round your coast come to maturity very much earlier than they do in other parts, do they not?—I do not know that. I have the evidence here of Mr. Cunningham of the Biological Association as to that if you wish it.

Mr. WILLIAM GEORGE SCOTT, is called in; and Examined.

Mr. Mallock.

4945. I BELIEVE you reside at Torquay, do you not?—Yes.

4946. Are you a fisherman?—Yes.

4947. How many years have you been fishing?—From 30 to 45 years, positively 30 years constantly, in and out, in a sailing vessel.

4948. But you have had, have you not, 45 years, experience altogether?—Yes.

4949. What is your fishing now?—My occupation now in fishing is chiefly in the hooking line, but occasionally trawling.

4950. Where do you trawl?—I have been trawling in the Bay.

4951. Have you anything to do with seine fishing?—I have before now, but not of late.

4952. Principally then you do hooking, do you?—Yes.

4953. Do you represent the fishermen of Torquay?—Yes, I believe so. I am sent here to represent the whole of the Torquay fishermen.

4954. Did you have some sort of conference with them before you started?—I did.

4955. Did you here Mr. Dyer's opinion with regard to the amount of fish in Torbay?—Yes.

4956. What do you think about it compared with the amount there was in former years?—I differ very much from Mr. Dyer in that one

0.93.

Mr. Mallock—continued.

respect. I consider there is a very great deficiency in different kinds of fish in Torbay.

4957. With regard to the channel outside, can you speak to that at all?—In a measure I can, but to no great extent.

4958. Do you think the fish have decreased outside as well?—Very much indeed.

4959. Is Torbay a great breeding ground and nursery for fish?—Yes, it is a very great nursery.

4960. For what kinds of fishes?—Chiefly the flat fish, such as plaice, soles, dabs, and so on.

4961. What fish do you catch now in the Bay mostly in your line?—If we trawl it is plaice, dabs, or soles chiefly; it is a rare thing to catch a brill or a turbot in the Bay.

4962. Do you catch many small fish?—Yes, a tremendous lot of small fish.

4963. Do you find any sale for them?—No.

4964. What becomes of them?—We have to throw them overboard.

4965. In what state are they when they are thrown overboard?—There is a certain class that lives the greatest part of them, such as small plaice; small plaice will live a considerable time out of the water, but a dab will live only a very short time. The consequence is if you throw that fish overboard he is very liable to die, but a plaice will live considerably longer than a dab.

4966. But do you think a good many of them die?—

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Mr. Scott.

[Continued.]

Mr. Mallock—continued.

die?—Many will perhaps, but I think the greatest part of them will live.

4967. Do you know enough about the trawling outside to say whether it is the same with large trawlers?—I could not answer that question positively. All I can speak of is this: in my way of living I occasionally go to Brixham through the winter, and I see what the large trawlers bring in. What I see is this,—that the small fish are left on the deck, the large fish are picked out and taken ashore for the market, and the small fish are left for the accommodation of men who come aboard, the hobbler, who wash the decks down for the men; they pick out the small fish which I for one have been very glad to go and buy for the sake of earning a shilling or two. These men make a good day's work out of these small fish which are left on the deck.

4968. Then you think it is not wasted?—It is not wasted in that respect, it is good for someone.

4969. How long is your trawl down when you are trawling in the Bay?—Our trawl would not be down positively longer than two hours.

4970. How long are they down outside?—From six to nine hours, and possibly sometimes more than that; it might possibly be 12 hours.

4971. Would not that make a great difference in the chance of fish living if they are in the net?—Certainly it would.

4972. There used to be a greater variety of fish in Torbay, did there not, in former days than there are now?—Considerably.

4973. What kinds were there formerly that you do not get now?—I have known the time in Torbay where we could set a net during the night, and catch as many as 18 to 20 dozen of hake in the net, but now it is a rare thing to see one in the Bay.

4974. Do you ever get any pilchards now?—A rare thing is a pilchard.

4975. What do you get mostly now?—Herrings; as far as the net is concerned, herrings are our chief fish in Torbay.

4976. Do you get large catches of sprats sometimes?—Yes, occasionally in the winter time.

4977. Is there a ready sale for them?—Yes, there is an extraordinary sale for sprats.

4978. To what do you attribute the decrease of fish that you complain of in the Bay?—The only thing I can attribute it to is the great increase of trawlers; I remember the time when there was positively not over 50 trawlers belonging to Brixham, and now I should consider there are 250 there.

4979. But the trawlers within the last few months can no longer trawl in the Bay, can they?—I understood that to be the case, but I do not find it to be so when I see with my own eyes that they are really doing it at the present time.

4980. Do you mean that the regulation is not complied with?—Certainly so.

4981. Have you made any complaint as to that to anyone?—I have not myself.

4982. I do not mean you personally, but has there been any complaint made?—Yes, there have been complaints made about it.

4983. How would you recommend it to be stopped; are there any means of stopping it you

Mr. Mallock—continued.

can suggest?—I should think if there is a special committee, as there is I understand, that is the only power I know to stop it.

4984. But they cannot stop it by sitting in Newton and saying it is not to happen; they have no police of their own, have they?—No, we have no gunboats or anything of the kind to stop it.

4985. Do you think that increasing the limit of size at which fish might be sold in the market would be of any advantage in stopping it?—I could not answer the question satisfactorily.

4986. I am only asking about your own district?—I think not.

4987. Do you think the fish would be caught all the same?—I believe so.

4988. What about the mesh of the trawl nets?—I use precisely the same mesh as the Brixham trawlers in every respect.

4989. What about the seines, what are their meshes?—A long trawling seine would use a tolerably open mesh, but for all that they catch a considerable quantity of fish. A tuck seine is a very different thing entirely; they can catch and destroy a considerable quantity of fish if they will, and I have known them do such things but not so much now.

4990. Do you mean the large seines or the tuck seines?—I mean the tuck seines.

4991. You do not think they destroy a great quantity now then, do you?—No.

4992. How do they avoid it?—They have a dip net, and whereas formerly they used to destroy the fish through carelessness they take them out of the seine alive, throw them over the other side of the boat and they go away.

4993. Does that apply to both kinds of seines?—No.

4994. What happens with the large seines?—Those that they land ashore are hauled ashore, and the fish are left to destruction.

4995. Then you do agree with what Mr. Dyer said, do you not?—As to the tuck seine, I do not see any possibility of getting out of it. They can destroy the fish, but there is every possible means of getting rid of it in a better manner than with the other seine.

4996. Then do you agree with what Mr. Dyer said as far as regards the larger seines?—Yes, I quite hold with Mr. Dyer in every respect in that one thing.

4997. Is there often any difficulty between the hookers and the trawlers?—Yes, very much difficulty.

4998. That would be all stopped by this bye-law, would it not, if the bye-law is enforced?—It should be if it is enforced.

4999. I mean that is an old complaint which if the bye-law is enforced would be done away with, would it not?—Yes, it would be beneficial to the hookers.

5000. And you would get rid of that grievance, would you not?—Yes.

5001. Do you know anything about the Sea Fisheries Committee?—I really do not.

5002. Are you satisfied at Torquay with your representation on it. Has there been any complaint at Torquay?—No, there have been no great complaints at all.

5003. Supposing there was a limit put on the sale

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Mr. SCOTT.

[Continued.]

Mr. Mallock—continued.

sale of the soles and plaice and so on, which are to be sold, what limit do you think would be useful?—I should not like to answer the question.

5004. Would you not like any limit at all?—I certainly should not.

5005. Do you think they would still be caught?—Yes.

5006. And consequently there would be great waste if they could not be sold?—Yes, if they could not be sold, there must be great waste.

5007. With regard to a close time, for certain months in the year would be of advantage?—Certainly not. I cannot see how you could arrange to have a close time.

5008. Do you think a close time for certain areas and specifying a small portion here and there where there is good breeding ground might be of use?—Yes.

5009. Have you any other suggestion to make with regard to the improvement of fishing in general?—Yes. I have in respect of those small trawlers, what we call “bumble bees.” It was suggested, I believe, that they should be kept to a three-mile limit; but granted that is given them, they asked permission, in case of stress of weather, to tow their trawls in as far as the Brixham breakwater. I do not consider that is fair for this simple reason: Those small vessels, what we term “bumble bees,” just as in case of the large vessels, catch good quantities of fish, in what we term the Frenchmen’s ground out in mid-channel. Those vessels go there frequently, and supposing they are caught in a gale of wind and they are compelled to go in, they must stand the consequences. Instead of that, they ask now, because they are granted the permission to come as near the very edge as they can, to tow their trawl in as far as the breakwater, and I do not consider that is fair, it is breaking the law. If I look at it rightly, it is this way: if you give them an inch, they will take a mile; I look at it in that way.

5010. Then is your contention that this bye-law which has been passed is of some advantage, but that it does not go far enough?—It would if they were to strictly abide by it, then it would be of some advantage.

Major Jones.

5011. Are there special areas within your fishing grounds where the small fish are chiefly caught?—Yes.

5012. There are particular parts where the immature fish are chiefly caught, are there not?—Yes.

Major Jones—continued.

5013. Then you tell us that a large proportion of plaice thrown overboard after a two hours’ haul, would live?—Yes.

5014. Then do not you think that if a law were made preventing the landing of immature fish that that would prevent fishermen from going to these particular areas where the immature fish are chiefly caught?—It would, to a certain degree, but when you speak of those areas you must quite understand that there are very fine fish and large fish to be caught there as well as small. They do not purposely go there for small fish, but for the large, and the consequence is they have to catch small with it.

Chairman.

5015. You have no further suggestions to make to the Committee, I understand?—No, except that one point that I wish to keep the “bumble bees” from towing in further. I particularly protest against that.

5016. You think the great thing to be arrived at is efficient regulation to prevent different classes of fishermen from interfering with one another?—Quite so.

5017. And you want those regulations carried out and put into effect by a good system of maritime police, do you not?—Quite so, that is just what I do want. I wish to make one remark more. It would be for our protection in this way: in the fall of the year there are from 30 to 40 boats going out and throwing their anchors down to catch whiting with the hook. The consequence is, through the great quantity of bait we put down we attract a great quantity of fish under our bottoms, then these “bumble bees” according to whichever way the wind may be (they never come out until it is daylight), and if the wind is all right go to within a couple of miles to the west of us, and if the wind is easterly they go that much to the east of us and, they put their trawls down and deliberately thread their way in right among the middle of us; the consequence is if they do not catch my anchor they catch yours, and if they do not catch yours they catch another man’s; and if they do not catch the anchor I have had all four of my leads taken from me by the trawl, and I do not call that fair play.

5018. That is one of the difficulties we have to consider, namely, the way in which different fishermen may be able to carry on their trade?—Just so. I am only explaining it to the best of my ability.

Mr. SAMUEL MOODY, called in; and Examined.

Chairman.

5019. ARE you a fisherman at Skegness?—Yes, that is so.

5020. Do you belong to the local association there?—Yes.

5021. Have you been chosen by that body to represent their views before this Committee?—That is so.

0.93.

Chairman—continued.

5022. I understand you carry on your fishery inshore?—Yes.

5023. You do not go to the deep sea at all?—Not at all.

5024. What sort of fish do you catch principally?—We catch fish that are termed flat fish, soles, and smelts.

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5025. Are

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Mr. MOODY.

[Continued.]

Chairman—continued.

5025. Are the flat fish plaice and dabs principally?—You might term them plaice, we term them flat fish.

5026. But flat fish is rather a general term, and applies to a good many sorts of fish?—The flat fish that we catch never grow to the size of the plaice that are caught. You never catch them over seven inches, or eight in an extreme case, along the coast at all.

5027. Still are they plaice?—They are what we term flat fish.

5028. At any rate they are fish of a small size?—That is so.

5029. Do you find a ready market for them?—Yes, when over the five inches.

5030. Where do you sell them?—We can sell them in the neighbourhood.

5031. Do you hawk them round the country?—Yes, we can sell what we catch in the immediate neighbourhood without sending any away.

5032. How do you catch those fish?—They are caught principally when we go with horses and carts with the shrimp nets along the shore for a distance of eight miles each way.

5033. Do you use a sort of small trawl, you drag behind a horse and cart?—That is so with an 18 feet beam.

5034. Do you catch many shrimps?—About one and two pecks in a tide, and we catch amongst the shrimps these flat fish, or plaice as you call them, of the size I have mentioned.

5035. Amongst these flat fish, may I take it there are different sorts, dabs, plaice, and there some small soles, and small turbot?—We catch small soles of course in the shrimp nets, but never above one or two in a day of any size whatever; the small ones of course we return to the water, and if we are fortunate enough to catch a larger one we bring it up.

5036. How small do you catch soles?—Seven inches is the limit under Adams' Act, and everything under seven inches is returned to the water.

5037. All flat fish?—No, the flat fish we bring up at five inches, and we have never been interfered with in any way in the sale of them. I am not here to say there are no flat fish caught, and used under five inches, because the men use them sometimes occasionally, especially at the latter end of September, October, and the early part of November, to catch skate and cod fish with, as bait.

5038. Then I suppose you look with some alarm at any proposals to fix a limit under which flat fish should not be caught?—It would not hurt us in any way if it was not fixed higher than five inches.

5039. But I suppose you would agree if fixed at five inches, that would not be likely greatly to increase the number of fish in the sea, would it?—It would not.

5040. Do you think there is any necessity for a close time?—None whatever, for the simple reason that I have stated, namely, if we were allowed to bring them up at five inches. They spawn during the months of May and June principally on our coast.

Chairman—continued.

5041. Do you find these flat fish that you catch with ripe spawn in them?—Yes, during the months of May and June. After those months you will find multitudes of them of about one, two and three inches in July, August, and the early part of September. You scarcely ever find over five inches until the latter end of September, and from then till the last week in November they get near the shore in large numbers, when we catch them whilst engaged in shrimping, and dispose of them as I have stated.

5042. What do you consider to be a good day's work; putting it in a money point of view, what is the value of a catch?—A good catch would be represented by about eight or nine shillings in a day; that we should call a good fair tide.

5043. Can you give me any idea of the number of fish that would be included in such a catch?—About 70 small flat fish. We count the shrimps in with them. I put the two together when I say eight or nine shillings.

5044. It would be about 70 small fish?—Yes, if we get 70 flat fish which are saleable we call that a good tide; more often, worse luck, we do not get 20.

5045. How do you catch the smelts?—In shrimp nets by simply taking two horses, having the net open. The water is smooth and still, between the two horses the smelts go in amongst the shrimps and you catch the flat fish, the smelts and shrimps all together. The smelts come in the early part of May and June, but they are not saleable until about August, because they are small and not worth bringing up.

5046. How many fisherman does your association represent?—From 30 to 40, 33 or 34 is the exact number I believe.

5047. Can you tell me at all what number of fishermen are engaged in your particular form of fishing?—Along the shore, or do you mean the sole boats at Skegness.

5048. Altogether at Skegness?—About 33 or 34.

5049. Do you think there has been any great falling off in the fish in your neighbourhood?—No, it is about the same, I do not see much difference. They do not catch so many soles as they used to.

5050. But otherwise do you think the supply has remained pretty steady?—Practically the same.

5051. Do you get a better price than you used to, or is that about the same?—About the same. It depends largely on the market.

5052. In fact, would you rather say from your experience of the fishery that no reason has been shown for exceptional legislation of any sort?—No, not so far as we are concerned in the eight miles I have mentioned.

5053. And you are prepared to leave things as they are with perfect confidence?—Yes.

Mr. Heneage.

5054. You represent what is called the long-shore fishermen of the Lincolnshire coast I understand?—That is so.

5055. You

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Mr. MOODY.

[Continued.]

Mr. Heneage—continued.

5055. You are very much against a District Fishery Board there, I believe?—Yes.

5056. You opposed it, did you not?—Yes.

5057. And I think you were kept within it, were you not; you are within the limits of the Board?—Yes.

5058. And some of the further fishing villages were left out?—Yes.

5059. The fish you have been speaking of and which you called flat fish have a name, have they not, along the coast. They are a particular class of fish that never grow beyond seven inches?—Never.

5060. But amongst those fish and very like those fish, you catch a lot of very small plaice which you also talk of in the general term of flat fish, do you not?—That is so.

5061. Those would grow, would they not, to a much greater size if not disturbed?—If they did, it is a curious thing we never catch any of them when they have grown. We never catch one; we would only like to.

5062. Do the trawlers come into your waters much?—No, not much. There is nothing to come for; there is no great weight of fish.

5063. Therefore as you want to catch these small fish and you do not catch any of the big ones, you are against any restriction of size?—You see there would be nothing to catch.

5064. You are speaking entirely for your own particular trade, are you not?—Just so.

Chairman—continued.

5065. And not on the general question of fishery?—I am speaking simply as to the eight miles I have mentioned.

Mr. Mallock.

5066. With regard to the Sea Fisheries Committee, are you a member of it?—No.

5067. Are you satisfied with the mode of appointing the members or do you know anything about it. You said you opposed its formation?—There are no fishermen on the coast on that board to my knowledge.

5068. Who represent the different fishermen?—Members of the County Council, I presume.

5069. But there are certain members of the Board of Trade appointed to represent the fishery interests, are they not?—I am not aware of it on the Lincolnshire coast.

5070. Do you say there are no fishermen on your Board?—Not one to my knowledge, not from Boston to Donno Nook, to my knowledge.

Mr. Heneage.

5071. The two County Councillors who represent Lindsey on the Board, both come from your district, do they not, and represent your interests?—I believe they do the best for us they can, but it would be very much better if the fishermen themselves were on the board.

Chairman.

5072. Have you any experience of the North Sea at all?—None whatever.

Mr. J. T. EXTON, called in; and Examined.

Chairman.

5073. You and two other gentlemen from Grimsby have been chosen by the National Federation of Fishermen to represent their views to this Committee, I believe?—Yes.

5074. Will you tell the Committee something about the Federation, what its membership is, and what its objects are, and so forth?—Our objects are to do our best to develop the fisheries for the fishermen, also for the employers, to protect the interests of its members, and do our best to get legislation upon the matter. That is our chief object.

5075. What is your membership?—About 3,000.

5076. I think you are divided into several sections are you not?—Yes; into branches.

5077. And do you each come here from different branches to-day?—No, we have four or five different branches, then we have a centre, and when you sent your telegram the representatives were called together at the centre to pick members to come here and represent the whole of the fishermen.

5078. Therefore, are you thoroughly representative of the views of the Association?—Yes. I have my credentials in my pocket from the secretary.

5079. As to yourself personally, what is your experience of fishing?—I have had 20 years' experience out of Grimsby.

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Chairman—continued.

5080. In what form of fishing?—Five years in the line fishing, as an apprentice. I was apprenticed for seven years, and served five years in the line fishery, when my master failed; then the other two years I served in the trawl fishery; I have been three years oyster fishing, and 10 years master of a trawler.

5081. Are you master of a trawler now?—No. I have been ashore two years and six months.

5082. You have retired, have you?—Yes; but I get my living amongst the fishermen. I am a representative of their society, and they keep me to look after their interests.

5083. Was your line fishing, fishing with big lines?—Yes; long lines and hooks, the cod fishery.

5084. Do you consider that there has been a considerable falling off in the number of fish in the North Sea?—Yes, during the last ten years.

5085. Have you noticed that falling off especially, amongst any particular class of fish?—Yes; in soles and plaice chiefly.

5086. You do not think there has been a falling off in the round fish, do you?—No.

5087. Then may we put the question of round fish on one side?—Yes.

5088. To what do you attribute the falling off in the flat fish?—The catching power. There is too much catching power.

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5089. From

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Mr. EXTON.

[Continued.]

Chairman—continued.

5089. From over fishing, in other words?—Yes.

5090. Is that because you think the number of vessels fishing has increased too much or that the individual vessels have developed their own engines to too great an extent?—I think the introduction of steam and having double fishing gear is the great cause of the evil. You see one steam fishing vessel has two trawls to a sailing vessels' one. They work one at a time, but if a steam fishing vessel gets one net damaged, he has another ready to put down immediately, while a sailing vessel has to lose that time in getting the net ready to put down again.

5091. Still a good many of your sailing trawlers have engines to work the trawler with, have they not?—Yes; all of them have an engine to heave their trawl up and down, but not to tow with.

5092. What would be your suggestion with regard to any remedy that might be proposed?—Stopping the sale is one remedy; but then if you stop the sale there is as big a remedy, in my opinion, with regard to the catch. I know it is a critical point to touch upon.

5093. Do you mean the sale of small fish?—Yes.

5094. Would you propose to stop the sale?—Yes. I would propose there should be a strict law upon that.

5095. What sizes would you think would be a satisfactory limit?—Twelve inches plaice. I should think that would be a fair size plaice to land and to be sold. A sole I should take from 10 to 12 inches.

5096. Say 10 inches?—Yes, I am prepared to accept 10.

5097. Would you put any limit on turbot or brill?—I have not taken any particular notice of those fish. I have left my book at home unfortunately, but I measured 60 brills in our market the other day that were landed out of a steamer, and there was only one out of the 60 that came to a 10-inch brill, and a 10-inch brill is a small brill. I should not have a brill under 12 or 14 inches, nor yet a turbot.

5098. From your practical knowledge of trawling, can you tell us whether a very large number of small fish are caught?—Yes, a large number. Three years ago this summer I was in the same fleet as Mr. Normington, who has given evidence. There were 30 sail in that fleet, and the vessel I was master of made three hauls. I took the trouble to count one basket, and we put 400 of these small plaice in; then we shovelled the rest up, and averaged them at 400 a basket. All we picked out of those three hauls that were any good were 19 pairs of soles, half a box of turbot, and a box of latches.

5099. What do you call latches?—Something like a gurnard, only a larger species. The difficulty would be, if you stopped the sale, that the German coast abounds with prime fish, and our vessels which go over there to catch the prime fish would also destroy the plaice.

5100. On what ground were these particular trawls you speak of?—On the German and Danish coasts.

Chairman—continued.

5101. On the in-shore waters on the east side?—Yes.

5102. What would be your opinion as to the number or the proportion of these small fish that could be returned to the sea alive?—I should be prepared to accept the evidence that 90 per cent. would be dead, and I can give practical experience of the quantity of dead. We catch every haul large quantities of putrid fish, and there is my practical knowledge for saying that I do not think they can live. The ground on that side in warm weather opens, and there is so much land gets into our nets and the gills of the fishes that it is impossible for them to live. It is very hot over there in summer, and while we are getting the prime out ready for market no notice is taken of the other fish, which lies on the deck until it is very nearly cooked. We do not trouble about them, because we want to take care of the best fish to get into the market.

5103. Then, from the point of view of allowing these small fish to grow bigger, the prohibition of sale and landing would be of no use, you think?—No; I do not think the majority of our fishermen would agree with my opinion, because they would go over to get the prime; but I take it we are doing our best to legislate for the future and not for to-day, and if we allow them to go and destroy the small fish for the sake of a few pair of soles, it would be useless making a law without something could be done, and it would have to be done internationally to stop the catching to a great extent.

5104. Would you be in favour of stopping the capture; I understand you would not be content to stop at prohibiting the sale and landing, but you would wish to put some restriction on the capture?—Yes, as to certain grounds.

5105. Would you close certain grounds?—Yes, the Silt; and the ground up towards Heligoland is chiefly where we catch an abundance of these small plaice, and I should be prepared to suggest that from the island of Heligoland down towards Horns Reef some restriction should be put on the catch.

5106. What restriction would you propose?—Personally, I would propose to stop catching them altogether.

5107. Would you not allow any vessels to fish on that ground at any time of the year?—I would not. Well, in the winter there is nothing there to catch.

5108. Do you think that such a restriction as that would affect the fishing on this side of the North Sea?—No; there is not the immature fish this side of the sea.

5109. I mean, do you think it would increase the stock of fish on this side of the North Sea; do you think that the young fish that grow on the east side would come across to the centre of the North Sea and even to our shores?—Yes. After a plaice gets a certain size I look at it in the same light as a human being. After we get to such an age we feel we are able to wander away from our mothers' aprons to seek our living, and I think it is the same with a fish; when it gets to a certain size it will go away to other waters.

5110. And

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Mr. EXTON.

[Continued.]

Chairman—continued.

5110. And do you think it will come across to this side of the North Sea?—Well, I think some would go south. I do not think they would come right across to our shores, because they are a different species we catch on our English shores. It is like comparing an English fruit with a foreign fruit. The fishes, I think, would take the deep water, the majority of them.

5111. You heard the last witness give evidence, did you not?—Yes.

5112. Do you know anything about these so-called flat fish that are caught at Boston?—I have never been fishing there, but I know of some that are caught in the Humber.

5113. Are those young plaice?—Yes; and some are fluke; some are dabs, and some are flounders, they are a mixture.

5114. Do you imagine if they were not caught they would also work out into the deep water and grow?—I have had no experience of fishing along there; I do not think there is sufficient quantity caught on our coast to hurt the deep-sea fishing. I am speaking of the Humber; I have not been fishing along the Boston shore.

5115. You also have had considerable experience, have you not, of oyster fishing?—Yes.

5116. Has the oyster fishing declined very much?—Yes; but not to any great extent. There is not a very large market in the country for the North Sea oysters, and that depends a great deal on the catch. At one time, when I first went to it, we could catch them all the year round, which I do not think was right; now there is no market for them, so they do not go and catch them in the summer, or I think there is a good living yet to be got on these oyster grounds. They are 220 miles from Grimsby in an easterly direction, 60 miles wide and 100 miles long.

5117. What depth of water?—Twenty-two fathom on an average.

5118. Can you speak as to whether there is any regular spatting of these oysters?—Yes, in the summer months, and I think when the oyster spats, the spat floats for a certain time. We can see the water is thick.

5119. Have you noticed that occurring regularly?—Yes, every summer.

5120. Are you able to form any opinion as to whether that spat matures every year, or whether it is only certain years that it matures?—I have not the experience to say.

5121. Of course after oyster spat has floated for three or four days it falls and fixes on to various rough things at the bottom does it not?—Yes. This is why, I should strongly wish you to legislate with regard to this special oyster fishery. They die when we catch them in the summer. As we catch them there are hundreds of small ones fixed on some of the large ones about the size of a threepenny bit, just as if they are beginning to form, then they are all destroyed when we catch them, because they are all scraped off the shells. It is virtually no use to catch them in the summer because they die as fast as they are caught.

5122. When once these small oysters are attached to the big oyster's shell, they would 0.93.

Chairman—continued.

remain there until they grew up, I suppose?—Yes; but when we are cleaning them we knock all that off, and the knife does not cut them off clean, it kills them. We have to clean them so for the market, or the merchants would not buy them.

5123. There is a close time now, is there not?—I do not know there is any bye-law. I think if a merchant asked anyone to send a vessel to that oyster fishery they would go and catch them and lay them in the ground until the close time ceases. At times when we have been catching them in the summer, I have seen as many as 29,000 caught and brought home, but when we have got here we have only turned out 9000 or 10,000 alive; the others have been putrid, the water being so warm, and their being so full of spat.

5124. Then would you recommend a close time for the oysters in the North Sea?—Yes.

5125. For the deep-sea oyster?—Yes.

5126. It is a big coarse class of oyster, I suppose?—Yes.

5127. Is there any other point you wish to speak to us about?—I should strongly suggest that something should be done with the Lincolnshire coast, as there is no Fishery Board there for protection, because it is a coast that has a good breeding ground for soles, and there is no Fishery Board from the Humber southwards.

5128. Would you be in favour of that coast being constituted into a Sea Fishery Committee district?—Yes; because it is such a good breeding coast for soles.

5129. How is it that has not been done already?—I am not aware of that; I cannot answer that.

5130. Has there been any agitation in favour of it?—I am a member of the North-east Fishery Board, and it has been mentioned there, and I think there has been one meeting of the Lincoln County Council to see if something can be done, this summer, quite recently.

Mr. Heneage.

5131. But what you call the north-east coast fisheries extend to Donno Nook in Lincolnshire, do they not?—I mean from Donno Nook down to Cromer; I said from the Humber southwards.

5132. Then the district beyond Donno Nook objected to belonging to the North-east Board, did it not, and wanted to have a fresh one?—I should be in favour of forming one for themselves, and calling it what they like as long as there is one to protect that coast, which is such a good coast for breeding.

5133. At the time the North-east District Fishery Board was being formed, they were included in it, and then they petitioned to be taken out and formed into a separate one themselves, together with the coast on the other side of the Wash; was not that so?—I am not able to answer that. I do not know when it was formed.

5134. You may take it from me that that is so?—Yes.

5135. Do you consider that the cause of the depletion

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Mr. EXTON.

[Continued.]

Mr. Heneage—continued.

depletion of the fisheries is over-fishing?—Yes.

5136. And the only proposal you think that would be practicable is one to stop the sale of undersized fish?—Yes.

5137. Do you believe if that was stopped many fishing boats would keep away from the grounds where the small fish are?—Not in the summer on the other coast. Of course on our coast there is no small fish, but on the German coast I have a strong opinion they would (I should myself, if I was going to sea now in summer) go over there. This has been an exceptionally good summer for soles and turbot, and there are amongst those small plaice, I should certainly go there to catch the soles, and I could not help to be catching the plaice, which I should have to throw away dead, and which would be just the same as allowing them to be sold.

5138. Then you do not agree with some of the evidence that has been given, that if the sale of immature fish were stopped it would prevent boats from catching the small fish?—No, I do not believe it would prevent them.

5139. Then what would be the advantage in your point of view, of stopping the sale of small fish?—There would be none of them landed, but the two things, in my opinion, to do any real practical good, should be combined—the sale and the catch. I know the catch is a very critical point to touch on.

5140. Then you do not think that the stopping of the sale of fish without some international agreement to close grounds, would be of any great advantage?—No; not as regards the German coast; without an international agreement. I do not think that it would be of any great advantage.

5141. Then do you disagree with Mr. Normington on that point?—Yes.

5142. He was against a close time, but in

Mr. Heneage—continued.

favour of the stopping of the sale of the fish?—Yes. I do not see how you can have a close time, because I do not think it would do any good. You see, before steam came into the market there was a close time ordained by providence, which kept the sea supplied.

5143. Did you ever go to sea on a steam trawler, or were you always on a sailing boat?—On a sailing boat.

5144. Have you heard a suggestion from Scotland that the territorial limit should be extended for eight or nine miles in order to enable the District Fishery Boards to put their bye-laws in force to a greater extent?—I have not heard of that, but I should be in favour of it. But then, even on the German coast, I have seen 20 miles off at the Sylt, and 18 miles off, tremendously large takes of these immature fish.

5145. Have you considered if that territorial limit was extended to eight or nine miles, all the water in that limit would come under the law of the country to which it belonged?—No, I have not considered that point.

5146. I think you in Grimsby are not very favourable to the German law. For instance, with regard to men who are said to be caught doing illegal acts, are you?—Some of our members have had to suffer severely through it.

5147. Therefore, would you consider that a matter of importance in extending the waters?—Yes.

5148. And whether they were under the local laws of the country or not?—Yes; I think the majority of men would be in favour of extending the limit to eight or nine miles.

5149. And putting those waters under the local law?—If the limit is extended to eight or nine miles, and there is an international law, I think the person who commits himself would certainly have to sit down under the punishment of whichever law he came under.

Mr. THOMAS HATTON, called in; and Examined.

Chairman.

5150. ARE you another representative of the National Federation of Fisherman?—Yes.

5151. Your experience of fishing is principally in deep sea trawling is it not?—Yes.

5152. Have you any knowledge of the in-shore fisheries?—I have a very familiar knowledge with the in-shore fishery over the other side, right away from Ter-Skelling to Hautsholmen for the matter of that.

5153. Have you any knowledge of the in-shore fishery on this side, on the British coast?—No; I have not done a great deal of what is known as in-shore fishing on the English coast.

5154. I mean the sort of in-shore fishing Mr. Moody spoke about?—I only know what I have heard during the last three years, when working on the Grimsby pontoon, where a great deal of this fish is brought for sale.

5155. Can you tell me what sorts of fish are principally to be found amongst these small flat fish?—They comprise small soles, dabs, flukes, as we term them; I know no other name for them.

Chairman—continued.

5156. That is a sort of flounder, is it not?—Yes.

5157. Are there any small plaice?—Yes.

5158. Do the small plaice form a large proportion of the catch, or would it be principally dabs?—I should think the small plaice would be the least portion out of the different quantities.

5159. What sort of price do these small fish fetch?—Sometimes they make a very good price, and sometimes very little indeed. Of course, it greatly depends on the supply of the flat fish that there is in the market. I have seen them fetch as much as 9s. and 10s. a box, and I have seen them when they have had a hard job to give them away at 1s.

5160. What would be the view of your Federation with regard to the practice of catching these small fish on the English coast?—I believe that in the opinion of the majority of the fishermen, the destruction done in this way by the river fishing is an insignificant item compared with what is done by the deep-sea trawling.

5161. But

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Mr. HATTON.

[Continued.]

Chairman—continued.

5161. But is it not the fact that if you impose a limit of size on one class of fishermen you would be bound to make it apply all round?—Decidedly. I would rather not say a great deal on this point, for this reason, that I have never been fishing in this direction. What I know about them is only from seeing them brought for sale day by day on the pontoon; that is how I have gained any knowledge of them.

5162. But that is a very useful way of getting the knowledge. Are these small flat fish constantly coming to the market all the year round on the English coast?—No; in certain months in the winter the weather is too severe, and they go completely. My belief is, as far as I have seen, that they go completely under the sand until the warmer weather comes again.

5163. It is principally in the summer months that these fish are caught, is it?—Yes.

5164. How long were you at sea in a trawler?—I was trawling since 1874 up to within three years ago. These last three years I have been working in the same direction, only working on shore and going on board of the vessels day by day ashore.

5165. Do you think that the allegations of the falling off of the flat fish in the North Sea are well founded?—I do.

5166. Can you give us any reasons for that opinion?—My reasons are these: where I have gone season after season, in different parts of the sea, I have found that they have gradually got less year after year, so that there was not sufficient to catch to pay me for the trouble of going. Some of the places have got completely bare. Take parts of the Dogger Bank, and then cross over to the Jutland coast from the Silt Rough down to the Horn Reef Lightship, where every season there used to be a large quantity of large, beautiful plaice. Now, to the best of my recollection, the last time there has been any great quantity of large plaice there was 1886 or 1887; the plaice are completely out-fished, as it were.

5167. Has this falling off only been noticeable the last ten years, or did it begin prior to that date?—I do not think the falling off previously was so great as to be noticed. If there was any falling off, it was not noticeable at all till within the last ten years.

5168. But, still, I suppose you would say that the total catch of fish landed at Grimsby is as great now as ever it has been, would you not?—In the aggregate, yes, I should think it would be, but not by each vessel individually. Each individual smack has caught less and less each year, and is consequently a very great sufferer, because the earnings have been getting less and less in consequence of the decrease of catch.

5169. But, still, the price of the fish has risen, and he is getting a higher price for the fish he does catch; is not that so?—Generally speaking, but the increase of price has not risen so much as to recoup him for the decrease in the quantity of the catch.

5170. There has been a great development of steam trawling at Grimsby in recent years, has there not?—Yes.

5171. Do you think that has had anything to do with the falling off in the number of fish?—

0.93.

Chairman—continued.

Undoubtedly it has, for this reason, that under the old system of fishing by sail nature had its close times. There was the calm weather. Take, for instance, this summer. The way the weather has been it would have been a splendid time for nature to have recouped itself if it had not been for the steam. Then, again, in the winter time, when the strong winds were blowing and it was impossible to fish, nature had another opportunity. Then there were grounds which were practically shut out from the sailing trawler; I mean the rough grounds. Of course the smack, depending on her sail, had to go east, west, north, or south, as the case might be, but the steamer can hug the Rough, go round the skirts, and if he finds a little particular piece of ground where there is a fair show of fish he can go round over and back, and round and back, so that the catching power is undoubtedly enormously increased by this.

5172. Would you propose to put any restriction on steam trawling?—That is a difficult matter for me to say. A good many members (I want to speak the truth and say what is right) of our association are engaged in these steam trawlers, and it would not do for me to stand here and say, "Well, now, take the bread out of these people's mouths that are in the steamers and give it to them that are in the sailing smacks."

Mr. Renshaw.

5173. Still, if your position was not the position it is, perhaps you would say so?—I would rather not answer that question; it is not a fair question.

Chairman.

5174. I suppose your view would be, probably, that this system of over-fishing is rather likely to increase than fall of?—Yes.

5175. Then do you think that the depletion can be remedied by any mere limitation of the size and sale of certain fishes?—I believe it would do a great deal towards it. I honestly believe that the limitation of the size and stopping the sale would go a long way towards stopping the catch for a time. Three years ago, when the International Conference was held under the National Sea Fisheries Protection Association, I thought in my opinion, and it was the opinion of a good many of the fishermen of Grimsby and Hull, that stopping the sale would be sufficient, but the thing has still gone on while we have been talking, and in my opinion the measures to be taken want to be more drastic to-day than three years ago, and if we only still go on talking for another three years, then the measures will have to be more drastic still, if anything is to be done, because the process of destruction is going on larger to-day than ever it was. They are not only slaughtering the small fish to-day, but they are slaughtering the large fish. I am referring, of course, now to the new fishing ground opened in Iceland, where they are throwing hundreds of tons overboard every week.

5176. Of small fish or big fish?—Large fish.

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5177. Why

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Mr. HATTON.

[Continued.]

Chairman—continued.

5177. Why?—Not plaice, but cod and large haddock.

Mr. Pinkerton.

5178. But why?—The reason is that it would be unremunerative to bring, and the haddocks are too large. They are regular giants of fish; that there is no sale for them at present, or very little, almost, you might say, *nil*. In fact, while I am referring to this subject, I have a letter here sent on purpose, which I will read, if you will allow me. It is from a man engaged in this fishery just now. He says: "Dear Manton,—With regard to the great immature fish question, I think the limit is far enough, but the greatest achievement would be to get the public to recognise good mature fish. At present the trawlers who are running Iceland are throwing thousands of tons of good mature fish away, which, if some scheme of storage were got up, the fish sorted and bought for food would supply thousands in the year. I have been to Iceland, and we have to throw away hundreds of tons of good mature fish, such as haddock, supposed to be too large, and great quantities of cod, ling, and other fish. The fact is, the ground, which is valuable for fishing, is completely rotten with the refuse from the trawlers. We have to haul every two hours, and we have to carry extra hands to get rid of the fish and get the bit below we choose to save. The ground is fairly poisoned, and the plaice-fishing not so brisk, only in odd places; whereas before it was more general where there is any trawling ground." Then he says: "We got up this morning from Iceland, and off again in the morning." This is from a man on a vessel engaged in the Iceland trawling to-day.

5179. I should like to bring before your notice some information that I received with regard to the present price of plaice in the Grimsby market from the collector of the Board of Trade. You will be able to speak to this, probably. I am informed that in May last there was a very remarkable fall in the price of plaice, and that whereas in May 1892 there were 12,000 cwt. of plaice of the value of 15,000*l.*, or about 25*s.* a cwt., put into the market, in May 1893 there were no less than 21,000 cwt. of plaice put into the market, of an estimated value of 14,500*l.*, or only some 13*s.* 9*d.* per cwt. The gentleman who is responsible for these statistics attributes this to the large quantities of undersized plaice brought from the Dutch and German coasts, and partly also to the large increase in the catch of plaice round Iceland; and he further describes these particular Iceland plaice as a very large, coarse fish, and not a good quality of fish. Would you agree with that?—At present, but the class of Iceland fish will be improved, no doubt, by trawling. In my opinion trawling, to a certain extent, is beneficial.

5180. How?—For this reason: One thing that it does is that it stirs up the ground and brings the food to the surface, and by catching some of the fish it thins them down a bit, so that the others get more food, and they become in a better condition than if left alone.

Mr. Pinkerton.

5181. But if the fish are overgrown at Iceland, I am afraid your argument would tend in the other direction, because, if you increase the food you increase the size and the coarseness of fish, do you not?—I do not think so.

5182. Over-feeding has that effect in every other case, has it not?—If you had been fishing and taking any notice you would see that in nearly every case where any large quantity of fish is being caught they are nearly all very lanky fish, except in one particular season of the year—that is in the herring spawning season, when the fish, by feeding on the herring spawn, is in a better condition and fatter condition than at any other time.

Chairman.

5183. To return to my point, are you aware that the price of plaice has fallen very much this spring in comparison with last spring?—I am aware that it so sometimes. I do not know whether it has been general right through the Spring. But on a great many occasions I have known plaice fall a lot below the price they were last year.

5184. And also that there has been a very large quantity in the market?—There has, undoubtedly.

5185. Would you say that this year you had had an exceptionally large quantity of plaice in the market?—Yes, I think so, I would say that.

5186. What would you say of these plaice. Have they been largely immature small fish, or have they been generally of good quality, so far as you have noticed?—The great majority of the plaice that have been landed this summer so far has been the Iceland plaice, which is at present an inferior fish, although a large fish, and small fish from off the German coast.

5187. Then in the one case from smallness of size, and in the other case from coarseness of quality, the plaice that have been put into the market this year have been an inferior class of fish you think?—Yes, the great majority of it.

5188. Can you tell me whether the same state of things has been found with regard to soles. I am informed that there again, whereas in May 1892, there were 760 cwt. of soles landed, in May 1893, there were no less than 4000 cwt. of soles landed, and that the soles in 1892, sold at 6*l.* 12*s.* 10*d.* a cwt., whereas this year they sold for 6*l.* 5*s.* a cwt. Would your general observation bear out that information which has been officially forwarded to the Committee?—Yes; but what do you wish to know about the soles?

5189. I wanted to know whether you had also noticed the fact that there had been in the month of May a large amount of soles landed, and that those soles were cheaper this year than they were before?—Yes, because there is no doubt about it, there has been a greater quantity landed this year than there has been for some time.

5190. How do you account for that?—I account for it in this way, because the season has been so much more favourable; it has been so much warmer.

5191. Have

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MR. HATTON.

[Continued.]

Chairman—continued.

5191. Have these soles been entirely caught by English fishermen, or have they been imported from foreign countries?—There has been a lot of soles imported this year, more so, I think, than ever I have known. I have never noticed so many being imported before as I have seen this year. But there has been a larger catch of soles this season by our own vessels than there has been for several years.

5192. I should like to ask you a question which was suggested to the last witness, and that is, do you think that good effects might be expected from giving to each several country a zone off its own coast, say of ten miles, with regard to which it might make such regulations as it thought proper?—As to that my opinion, and the opinion, I think, of the majority of the fishermen, is that we have to be very careful about it. We should be very careful in extending the limit. There is no doubt it would be beneficial, but why I say we ought to be very careful is having in mind the harshness (I think I am justified in using that term) of the sentences imposed upon our fishermen who have been caught infringing the Convention at present. Of course, we have contended that they have not done it wilfully, but I do not want to raise that point here or discuss these particular cases, but I want to refer to them to show that the men have good ground for asking that when any legislation takes place, Parliament will be very careful of dealing with the limit line, because if there is any infringement now there will be a greater liability to infringement if that limit is extended, and a person may do it innocently. We contend that the skipper of the "Clio," when he got driven 325 yards over the limit line was innocent, and had no intention of doing it, and he could not help going there unless he threw his anchor down. And in such a case as the "Lady Godiva," one thing which would have to be defined would be the word "fishing," because the definition of this word has been given at times as an "intent to fish." If so, we should be guilty when we leave the Grimsby or Hull docks, because that is the object we have in going out. We intend fishing when we go out, but we do not intend to fish in these particular waters. Then, as is so often the case with the low-lying land across on the German, Dutch, and Jutland coasts, we have a great deal of foggy weather oftentimes to contend with; we are driven up and down, we have no land marks, there is no sun; and whereas down towards the silt and the reef, where, by the depth of water we would know we are outside the limit, we have the same class of water further to the eastward inside the limit line. Therefore, this thing wants to be very, very carefully dealt with, because you might lay about there for two or three days in calm and thick weather, drive inside the limit, and be guilty of an infringement of the Act, and not know you were doing it. Therefore, I think, you should be very careful with a limit.

5193. But, still, your object is to keep the fishermen off this in-shore water on the east side, is it not?—Decidedly, under present conditions.

5194. It is very much easier, is it not, in enforcing.

Chairman—continued.

forcing any regulations for the particular country to enforce them rather than to have a sort of international police, which would be under the control of all the different nations?—Yes; it would be a great deal easier.

5195. It is no good making regulations if you cannot enforce them, is it?—No.

5195. Is there anything else you wish to tell the Committee?—I would, with your permission, as I am here speaking for several thousand men, and giving not only my own ideas, like to say that I have had given me various opinions as to proposed remedies which I should like to read. About ten years ago, in the infancy of steam trawling, I said that steam trawling would, in my opinion, be a considerable factor in ruining the British fisheries. I am now of opinion that some restriction must be placed upon this building of steam vessels *ad libitum*, and a premium given to encourage the building of and to encourage the working of sailing trawlers. The German Government offer 36*l.* to any six men who build a boat of a certain tonnage in which they may proceed further to sea. That is with the object of fostering the deep sea fishing. I submit this suggestion to the consideration of the Government. This would gradually bring us back to a close season. Secondly, I believe there is a pressing necessity for a law international, if possible; if not, then a British law prohibiting the landing, exposure for sale, sale and purchase and carriage of immature fish, that is, fish under a certain size. I submit the Hull conference size as a basis. A twelve-inch plaice is, in my opinion, a small enough fish to catch, a ten-inch sole, and so on. We base our sizes upon the size adopted at the Hull conference, and, I believe, adopted here in London at the National Sea Fisheries Protection Association. Three years ago I would have advocated, and did advocate, restrictions upon capture. Then it was possible to cull a good many saleable fish from the immature. This is not so now to such a large extent. There should be a law passed prohibiting the landing, exposing for sale, sale and purchase, and carriage of immature fish. I hope you will not lose sight of the carriage, because it will be so easy to deal with a single boater who brings his own voyage and lands it to market, but there are a great many vessels in the fleets in the North Sea who send their catches by the steam carrier, and I would like to see, in trying to stop this catch, that the result was successful, and some of the liability was put upon the carrier if he attempted to bring in any of these fish, as well as upon the catcher if he wanted to send it. I think then it would be possible in three years from the passing of that law, and especially if such law was international, that restrictions would be requisite for capture, as they then would be able to cull large ones from the small, and would certainly do it if not prevented. I believe at present that the stopping of the sale would materially lessen it, if not prevent it altogether, but in a year or two's time our men would begin to say, "Well, I think they have had time to grow, we shall have a few big ones amongst those small ones." Then the restrictions upon the capture would be necessary.

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[Continued.]

Chairman—continued.

necessary to prevent it. Another reason why I should hesitate to advocate any restrictions to capture by extending the international line limit is because of the harsh sentences inflicted upon our men by the German Government when caught, as brought before the National Sea Fisheries Convention. I should hesitate even if I believed it requisite to advocate an extension of the line limit having in mind recent convictions of our men by German Courts. I think it as necessary to prohibit the carriage of immature fish by steamer or the landing of fish by steam carrier as to prohibit the sale. If not so and the steam carrier lands it, their part of the bargain being completed, they claim their freight, and the fish being condemned the fisherman is the only loser, as the owner, who I admit would have to pay part freight, would as a shareholder in the carrying company, which is almost in every instance the case, would be recouped by the carriage, and where the owners of the smacks were the carrying company the direct loss would be to the men. I admit the company would then be no gainer, but it is the men I want protected, and it is of their interest I speak. I have particularly noticed that in mid-sea we have caught plaice ready to spawn, and I and many other fishermen who have thought on this subject believe that they do not swim to the shore to spawn in all cases, but spawn in mid ocean and that the spawn floats on the top of the water for some time, and gradually sinking is borne by the eastern set to the shores of Denmark and Germany. A good deal of this spawn while in a floating state is in my opinion devoured by wild birds. I formed this opinion because I have dipped a bucket over sometimes, and seen the water quite red with the spawn, and we have seen them swimming and darting about. Then again, as to these places which have been spoken of as being over-fished, such as the Dogger Bank, and part of the Well. I have an idea, but have not had the means to carry out the experiment; I think the Government might in the interests of the food supply of the nation, perhaps carry this suggestion into effect, that is, to have a well vessel, catch these small fish, bring them to certain grounds, and drop them from a valve in the ship's bottom. That is to say, catch them and let them out again for the purpose of replenishing the districts which have been out-fished, and which are barren to-day. The same might be done with the Iceland fisheries. I think those big fish might be brought up into the North Sea into the deep waters and would materially assist in increasing the supply of fish in the North Sea.

Major Jones.

5197. For how long a time is the trawl down in your fishing boats?—That varies with the amount of fish you are catching. The usual haul now, I think, is about six hours on a sailing vessel. Of course, with a steamer it varies with the amount of fish that he is catching.

5198. What percentage of immature fish would live if thrown overboard?—That greatly depends, as I say, on the length of the haul, and the nature of the bottom, and the weather.

Major Jones—continued.

5199. I want to know more about this patent ship you have suggested. You have suggested a new type of vessel which would enable the fishermen to throw the fish into a well, and, as I understood your point, enable the immature fish to get away; was that your point?—Yes.

5200. Will you please develop your scheme and tell us exactly how you propose to carry it out, because if the fish are dead it is not a bit of use throwing them into this proposed ship in order that they may get away, is it?—If you were going to do so you would make shorter hauls. There was a time when the live plaice fishing was carried into effect in Grimsby.

5201. Is it possible to insist upon a shorter haul whereby the lives of the immature fish might be saved. Will you tell us all about your views on that, because my mind has been running in a similar direction and that is why I am pressing you on this point?—Certainly if the Government took this question up, and gave a subsidy to carry the scheme into effect, they would be able.

Mr. Pinkerton.

5202. What has that to do with the shortness of the haul?—They would be able to enforce the shortness of the haul.

5203. How?—That would be one of the conditions they would make the grant under, I should assume.

5204. Would you have a policeman on board every smack?—Decidedly not. If a person went out to fish he would know he was fishing in that direction, and consequently would make shorter hauls for it the same as when they were fishing for live plaice, they made the hauls of something like two hours in length and the greatest part of the fish was alive, if not all. They put them into the boxes down into the wells and brought them into the market alive. The same thing could be done now to-day by making shorter hauls than they are making, but under the existing circumstances, without Government coming in, you could not carry this out because there are none of the fishermen sufficiently wealthy to carry this scheme into effect.

Mr. Kearley.

5205. Would not the best way be for boats to go out especially in the interests of the fishery boards, to effect that purpose, not calling upon fishermen to do it. Would it not be far better to have a small fleet for that purpose assuming it to be practicable?—Yes, I am not particular who works it, but I think the scheme is practicable and my opinion is that it would go a long way towards what I want.

Major Jones.

5206. But you have not told us how you would insist on and ensure this short haul necessary for saving the life of the fish?—I cannot tell, only that it should be one of the instructions to the master, and he would consequently do it. The master hauls when he likes. He says "I will have it down two hours, or three, or six, or a dozen

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a dozen hours." The master decides when he hauls, and if this scheme was tried this would be one of the conditions the master would engage under, and he would say "we will have a two hours' haul," and if the fish was not alive then, they could have a shorter one still.

Sir Albert Rollit.

5207. But that would be much more costly, and would demand much more labour, and more men, would it not?—I think not.

5208. Do you mean to say that the same hands would do two hours' hauls as compared with six hours' hauls; I am asking for information?—We have to make a good many hauls, sometimes, of a night. We have to make five or six hauls sometimes when we get fast to wrecks and rocks.

5209. That is exceptional, but would not two hours' hauls, regularly, be too much?—No; you would not work so long.

5210. Then it would limit the productiveness which is another form of cost, is it not?—I think not.

5211. But if you caught less fish, the fish would be less remunerative, and therefore it would cost more in the quantity; is not that so?—Of course this theory which I have just advanced could not be carried out by anyone, unless the Government or the fishery boards carried it out as an experiment in any particular ground.

Mr. Kearley.

5212. Of course these are suggestions you make which might be tried as experiments purely and simply?—This is a suggestion which has been made in order to draw attention in this direction, to see if there was anything in it or not.

5213. Purely experimental; now let us get back to the region of fact. I think you have said in your evidence, that, in your opinion, these steam trawlers are responsible to a very large extent for the quantities of immature fish that exist now, because they have over-fished; is that so?—Yes; there is no getting away from it. The introduction of steam accounts for a lot of it.

5214. Let me put it in another way to you; prior to the introduction of steam, the fish was very good, and the quantities of immature fish not appreciably large; there was no general outcry like there is now, was there?—No, there was not.

5215. As regards the Iceland fishery about which you told us and read a very interesting letter. They are catching very large quantities of what I may term giant haddock, are they not?—They are.

5316. Are they unmarketable simply on account of size?—I have heard nothing else against them.

5217. Can they be brought to market sufficiently quickly to be edible and saleable?—Yes.

5218. But the public appetite has not been trained up to the point of eating giant haddock, has it?—That is so.

5219. Is there anything else against the fish; is it strong on account of its size?—I have known 0.93.

Mr. Kearley—continued.

several people who have tried them at Grimsby, and their verdict is that they are a splendid eating fish.

5220. Very good quality fish?—Yes.

5221. And the only objection to them is the public prejudice against the size, is it?—That is it.

5222. Have you any other evidence, or have you heard any other opinions, about the great quantities of this splendid fish that have been thrown overboard excepting that contained in that letter?—Yes, I have heard different other people state similar facts as those contained in the letter.

5223. It does not apply to soles at all does it, but only applies to haddock, cod and ling?—Yes, and skate. I believe they throw over a lot of skate there.

5224. Are they catching soles there of extraordinary size?—I have not heard at all of them catching any soles there.

5225. And the effect of throwing all this fish overboard is most detrimental to the fishing grounds is it not?—Yes.

5226. You stated that the grounds were simply rotten in consequence of this dead fish?—Yes. In the opinion of a good many fishermen they think that when fish is caught, thrown over dead, it lies on the ground and rots and drives the other fish away.

5227. As regards the extension of territorial waters I understand the fisherman would not object to that to a very great extent, could they be sure that the sentences for breaking the law would not be such harsh ones as are now inflicted by the Germans and other Continental powers; is that the main objection to the extension of the territorial waters?—I think that is the main objection.

5228. Therefore if there could be an international law passed, which would be just to all parties, in regard to penalties for infringing the law, do you think the fishermen in your part of the country might be induced to consent to an extension of the territorial areas?—I do not know, because I believe there is at present, unless I am wrongly informed, under the present existing convention, a maximum penalty for the breaking of it, and it seems to me if any of our people happened by any force of circumstances to break this convention, they get the maximum, while if any of the foreigners infringe, as far as our country is concerned, they get the minimum, and that is the objection.

5229. The consequences of breaking the law in continental waters are more serious, are they not, than they are in home waters, the punishment is greater?—Yes, the punishment is greater always.

5230. And is that what the fishermen dread in connection with the extension of territorial waters?—Yes, they do not think it is fair.

5231. Is that their great objection?—Yes.

5232. You mentioned that the Germans offer a premium of 36*l.* to any six men who built a boat above a certain tonnage to induce them to get into the deep-sea fishing?—Yes.

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[Continued.]

Mr. Kearley—continued.

5233. Do you think a similar offer to that might be of some advantage in this country?—Yes.

5234. Would it be possible, in your opinion, to restrict the number of trawlers that went from certain ports, or to restrict the building of them. Do you think that would be accepted by the fishermen supposing Parliament enacted such a law, which I very much doubt?—That is what I was going to say, it would be possible perhaps to do it, but I do not think it probable it would ever be done.

5235. Do you think the fishermen would resist it?—I think they would. I think they would not think it fair.

Mr. Pinkerton.

5236. Would you be in favour of preventing steam trawling in bays. You explained very fully and clearly how the steam trawler had an advantage over the sailing trawler, inasmuch as it could first turn round and round, and fish these narrow waters?—Yes.

5237. So that there was no possible escape for a fish in any land-locked bays or places. Would you be in favour of excluding steam trawlers from sandy bays, and places of that description?—I believe they are excluded now, are they not, in a great many places in the territorial waters?

5238. You would be in favour, I understand, of the exclusion of steam trawling inside the bays?—Yes, inside of the territorial waters.

5239. Take Galway Bay, for instance, if you measure the territorial limits, from headland to headland, it is right enough, but if you measure it round the coast you are fishing inside a bay, are you not?—Of course, as to this question, I think dealing with our own coast, we have fishery boards established nearly all round it, and I think the better plan would be to let these people deal with their own particular districts, as to the restriction upon fishing in their own waters.

5240. Then are you in favour of local fishery boards being able to establish possibly vexatious bye-laws, and infringing the rights of the fishermen. Do you not think it it would be better to have a universal law affecting the entire country, than have these different laws passed by these local fishery boards?—In regard to the size of the fish, I believe it would; and in stopping the sale, I believe it would be the best thing to do, but as to the fishing, I think it would be best to leave that to each particular fishery board.

5241. How are strangers to ascertain the rules of these particular fishery boards. Take for example, the German coast; you object very much to the stringency of the German laws. Suppose every district in Germany along the coast had a separate law passed by a distinct fishery board, would not that add to the difficulties very considerably?—No, not with me, because I break the law as soon as I go inside the limit, it does not make it more difficult to me or complicate it at all, as far as I see.

Dr. Tanner.

5242. You are altogether, I take it, are you not, against this taking of immature fish?—Yes.

Dr. Tanner—continued.

5243. Your ideas about the taking of immature fish are mainly confined to those areas that we have heard so much about in the German Ocean, on the Dogger Bank, and north and south of Heligoland?—Yes.

5244. Your main attention, I understand, is devoted to the foreign area?—Yes.

5245. That is the Danish and North German Coast is it not?—Yes.

5246. And you want to try to the best of your ability, do you, to prevent the taking of immature fish on these banks?—Yes, that is so.

5247. Taking your own banks off Grimsby and along the north-east English and east English Coasts, you have noticed a great falling off in the taking of fish I understand?—Yes.

5248. Is it in consequence of that you have to go further to sea?—Yes.

5249. And is it in consequence of having to go further and the great taking of fish that you are coming now to try and get some legislation on this point?—Yes.

5250. Are you not trying to do your best as to all your banks within the three mile limit to keep these banks properly stocked. You have no complaint about the English banks within the three mile limit, have you?—No, no complaint.

5251. You have no complaint about the English banks, have you?—No.

5252. Then, in point of fact, all these complaints are in connection with fisheries off other coasts, are they not?—Yes.

5253. Have you any complaints to make of foreign fishermen within your limits, French, or Danish, or German, or Norwegian?—I have no complaints.

5254. Have you heard of none?—I have not suffered from them.

5255. Have you heard of any?—I have heard of cases where complaints have been made by other people, but I have no complaint to make against them.

5256. You have heard no complaints against foreigners fishing within your limits, although you are here to give evidence against Englishmen or Scotchmen, or perhaps Irishmen fishing in foreign waters and taking immature fish there. I want to ask you what is your opinion about the three mile limit—is it enough? Do you think three miles outside the headlands is enough and is a sufficient limit for the protection of fishing banks?—I say no, only in certain areas.

5257. Give me an example, will you?—I say the three mile limit is not sufficient to cover the distance of these immature fish in the districts where I mean.

5258. Is that outside the headlands?—Where we are talking about

5259. Give me the district?—Well, you do not go inside over on the Silt.

5260. Give me a district?—I am talking, of course, of the Jutland Coast, the North German Coast.

5261. I am not talking about the Jutland coast; give me the English coast?—I think it is sufficient there.

5262. Can you give me any district on the English coast where the fishing will be ruined in consequence of the three mile limit being imposed?—

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Dr. Tanner—continued.

imposed?—I think it is sufficient on the English coast.

5263. You think it is, do you?—Yes.

5264. Are you of opinion that no steam trawlers ought to come into the bays?—I am of opinion that if you prohibit one inside the bays you should prohibit the others.

5265. How far outside the bays would you prohibit them?—I should leave the local authority to determine it; they have the power, and they use it.

5266. Give us a frank opinion on the subject. Supposing you had a good fishing bank right away off the district which you are representing as a local man, how far off the headlands would you prohibit steam trawling; would it be three miles, or more?—I tell you, Sir, I cannot tell you. If these particular boards do not know how to deal with their particular districts I cannot tell.

5267. I am putting you in this position: if you had a good bank, say off the coast of Ireland, say how far would you protect that fishery against steam trawling?—I will not single it out for the steam trawlers and the smack. If you are going to prohibit one you must prohibit the whole; it is not fair to any one of the men to say you will not let them come inside of this particular distance of the headland of the bay, but you will let the others, the sailing smacks, come in.

5268. Do you refuse to answer the question?—Yes.

Mr. Harry Foster.

5269. What do you call an immature sole?—I should call an immature sole anything that measured under 10 inches.

5270. Why under 10 inches?—Because that has been the thing generally agreed upon by our people as the size to fix.

5271. By what people?—The fishermen of Grimsby and Hull.

5272. What is your idea of immaturity in a fish?—As for as I understand the question, an immature fish is one that will not propagate its species.

5273. That will not reproduce, you mean?—Will not reproduce.

5274. Do you know the size at which a sole reproduces?—I have heard it stated (I have not the figures with me, but I cannot give them from memory) at the Sea Fisheries Conference.

5275. Do you mean by an immature fish, a fish that is not large enough, or old enough, to reproduce?—Yes.

5276. Do you recommend that where a fish has not reached the power of reproduction it ought not to be caught?—I think so; that is my own opinion.

5277. Are you aware that in the case of soles they do not reproduce until they are 12 inches in length?—I have heard it stated so.

5278. What do you think is an immature plaice: at what limit of size do you think people ought to be forbidden to land plaice?—As I have already said we have agreed to try and get some legislation in this direction, and we have agreed to accept the different sizes that were adopted at the Hull Conference.

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Mr. Harry Foster—continued.

5279. I want to know the size?—12 inches.

5280. For plaice, do you mean?—Yes.

5281. You have just told me that you think they ought to be prohibited from landing fish until they have reached the size of reproduction?—Yes.

5282. Do you know that in the case of plaice, that is 16 inches?—I am informed so. I know that.

5283. Then, if your views were carried out, fishermen would be prohibited from landing plaice under 16 inches, would they not?—Yes, my personal view.

5284. I only want to know your view?—Personally; but I do not want to come here to give my views altogether, I want to give the views of the people who have sent me.

5285. But I am asking you your views. Would you be prepared to recommend that plaice should not be included under 16 inches?—No. The people would not agree to that, they would oppose that. They will agree to a 12-inch plaice, but they would not agree to a 16-inch plaice to-day, for the simple reason that the fisherman has not, in my opinion, sufficient technical knowledge on this question.

5286. He errs through ignorance, you think?—Yes.

5287. But still, you do think he errs, all the same?—I do myself, personally.

5288. Then is your own view, that unless the fish are allowed to mature and reproduce, very little good will be done by prohibiting the landing of those fish?—Decidedly; because if you keep on catching, and there is no reproduction, well, the time must eventually come when there is none to catch.

5289. So that, assuming the plaice do not reproduce until they are 16 inches in length, according to your view, not very much good will be done, by limiting them to 10 inches, 11 inches, or 12 inches?—In my own view, personally, I say no, but the views of the majority of the fishermen are that they would not stand it.

5290. A large number of these immature fish are now destroyed in the North Sea, in your experience, are they?—Yes.

5291. Millions a year?—Yes, I have seen 70 of them go into a pint pot.

5292. Who is principally responsible for the destruction of these fish as between steam trawlers and sailing trawlers. Which class of vessels does the greatest amount of destruction in the North Sea to immature fish?—Steam trawlers must do the greater amount by the greater catching power that they have.

Mr. Kearley.

5293. And the power to go over any ground they like, in any weather?—Yes, unless it is blowing very very hard.

Mr. Harry Foster.

5294. That is catching power, is it not?—Yes.

5295. With reference to the question Mr. Tanner asked you, supposing you were a local authority yourself, what limit you would vote for in the cases he mentioned, of productive banks?

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[Continued.]

Mr. Harry Foster—continued.

banks?—The case that he singled out took me to something I know nothing at all about, and I do not know the conditions.

5296. Do you know the English coast well?—I think that in our North Sea Fisheries District the three-mile limit is ample.

5297. You do?—I do.

5298. So far as you know the English coast, then, and speaking of English banks, in your opinion is the three-mile limit ample?—Yes.

5299. Do you know of any case in which you would enlarge that limit?—I do not.

Dr. Tunner.

5300. But that is on what I may term a lee shore, is it not. You have not got to face the Atlantic. It is on a confined ocean space like the North Sea or German Ocean. That is only a confined sea; it is not like the Atlantic, is it?—No.

Mr. Harry Foster.

5301. With regard to the question of the limit of size, do I understand your view to be this, that it would be useless, so far as reproductiveness is concerned, to stop the landing of immature fish unless you can stop them up to the period of maturity?—Science says this—

5302. I am asking you is that your view?—You must allow me to answer the question in my own way, Sir, or else I cannot answer it at all. Science tells me this is the case. If I am to believe science I must accept it, and I cannot say here “No” in the face of what science says. I am only a fisherman, and I cannot answer in any other way. Science tells me this, and I am not going to say science is wrong.

5303. Science tells you what?—That plaice will not reproduce itself under 16 inches.

5304. That was not my question at all?—You asked me if I believed it.

5305. No, I did not ask you that at all. You could not have understood my question. I asked you whether you thought it was any good limiting the size under the size of reproduction, whatever that size may be?—Yes, I do.

5306. What do you believe?—I believe some good will be done by limiting the size to 12 inches.

5307. Whether they reproduce at 16 inches or not?—Yes, for this reason: the people will keep away from them more than they have done in the past, and there will be more fish escape to mature than there are under existing circumstances. That is why I believe a restriction of 12 inches will do good.

5308. Then, supposing even plaice do not reproduce until they are 16 inches, you still think, do you, there would be some good in limiting the size to 12 inches?—Yes.

5309. Because as you say, some would escape being caught?—Yes, there would be more escape to arrive at maturity.

5310. Is your only remedy for preventing the catching and killing of these fish, the remedy of making the men pull up the trawl more frequently?—I say the remedy is to stop the catch and stop the sale.

5311. Does any other remedy strike you?—I think if you were to make the shortness of haul general, it would be a very hard matter to

Mr. Harry Foster—continued.

enforce it; I think to enforce it would be impossible, unless you put a policeman or some one on board every smack to see it carried out.

5312. Then you do not recommend that because you say it is impracticable?—Yes.

5313. Then is there any other recommendation you make to us for stopping the catching of these small fish?—I believe, as I have said before all along, I have said it a dozen times already, that the stopping of the sale will make a big reduction in the catch of that fish.

5314. Would it keep the fish out of the net?—The people would not go there to catch it.

5315. Not to catch any fish?—Not to catch any of it in some of the districts.

5316. Do I understand you to say then, that if the sale of this fish were prohibited under 12 inches for soles, it would drive the people right off?—I think they would not find sufficient of that class of fish there, as to make it sufficiently remunerative for them to go to catch the small fish.

5317. Then it would close the fishing-ground, would it not?—Practically so for a time, until the men began to think a sufficient time had elapsed for there to be a few big ones, and then they would go back again.

5318. Then when they went back would they be able to keep these smaller fish out of their nets?—Of course not.

5319. They would be brought up the same as before?—Decidedly.

5320. And they would be brought up dead as before, would they not?—Decidedly.

5321. And instead of bringing them to market they would have to throw them overboard, would they not?—Yes.

5322. Would that do any good?—For the time being it would do good.

5323. Would it do any harm in your view to the fishing-ground to throw overboard all these dead fish?—Yes, I think so.

5324. Then it would do harm—Yes.

Sir Albert Rollit.

5325. But as a matter of fact it is perfectly well known where the great bulk of these small fish are, is it not?—Yes.

5326. And I understand you to say, that if they were prohibited being landed or sold fishermen would not go to those particular places; it would not be worth their while?—I do not think that it would myself.

5327. With regard to the hauls. Could you make it two hours' hauls generally, without largely adding to the number of men and the cost. I mean regular two hours' hauls and no more?—If you were going to make a regular two hours' haul on board of every smack, there is no doubt about it you would either have to have more men, or else you would have to lay for a certain time doing nothing out of the 24 hours in order to give the men time to have a certain amount of rest.

5328. So that in that way the cost of fishing would be very greatly increased, would it not?—Decidedly.

5329. Now about this wicked steam trawler (I only want to acquit the steam trawler finally).

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[Continued.]

Sir Albert Rollit—continued.

The only objection, as I understand you, raised to it is the increased catching power?—Decidedly. I have no objection to the steam trawler.

5330. So that the only offence the steam trawler is guilty of is that she catches more fish; is not that so?—That is so; only I was asked the reason, and I stated it.

5331. What is the average size of these great haddock that you are catching off Iceland?—I should think they weigh, on an average, 6 lbs. or 7 lbs. a piece when cleaned.

5332. As compared with what for the ordinary haddock?—The ordinary run of the haddock now is, I should think, about a pound, or a pound and a half.

5333. Is it a different fish; a different species?—I do not see that it is any different; only larger.

5334. Is it not a fact that you may catch those large haddocks, and they are more prized than anything, in Dublin Bay itself?—I do not know.

5335. Have you not heard of the Dublin Bay haddock being remarkable for its size and quality?—No.

5336. Do you catch large quantities of halibut?—We do catch a lot at times.

5337. Is there any prejudice against halibut as a prime fish?—Not that I am aware of.

5338. But somehow or other it has not that great sale, has it, which some other prime fish has; I think it is the best of any fish, but I want your opinion?—I am not a line fisherman, but, as far as I have seen the halibut trade at Grimsby, there is a tremendous large business done. It sells well enough, in my opinion, live halibut; sells at 6s. 6d. and 7s. 6d. a stone.

5339. But, as a matter of fact, it is not a fish which is so popular as some, and I wanted to know if there was any ground for it; I want to know something about the closing of estuaries, and so on; do you not think that something might be done in preserving the Wash, for instance; I put it to you whether the Wash is not a place which might be very much improved, and whether it is not a nursery?—As I said before, I would leave the particular sea fishery board to preserve and deal with their own particular districts.

5340. Would you allow them to have a right to extend, in the case of inshore waters and bays, the three-mile limit?—No.

5341. I will give you the case of the Wash; do you not think the three-mile limit is quite inadequate in the case of the Wash; it is a nursery, to begin with, is it not?—Yes.

5342. Very much smaller in extent, but not unlike the eastern coast of the North Sea?—Yes.

Sir Albert Rollit—continued.

5343. Now, being a nursery, do you not think it would be desirable to give powers to extend the line in the case of a place like the Wash; I will give you another place nearer home, south of the Sand Head; is not that a nursery?—Yes.

5344. I put it to you whether there might not be advantages in making that a closed area, say 10 miles out, or something of that sort?—No, I do not think so.

5345. You do not?—No.

5346. But south of the Sand Head is distinctly a nursery, is it not, like the Wash;—Yes; all along that coast is a nursery.

5347. Cannot you see some advantage in protecting those areas, the shoaler waters, which are nurseries?—You see, as I have said all along, the difficulty is in extending this three-mile limit at all.

5348. I grant that?—I certainly should not, in my opinion, think it would be beneficial to give any one particular board power to make a four or five, or six or seven-mile limit. Take, for instance, the Wash; it is difficult, unless one is very well acquainted with it, to define how far a vessel is off.

5349. Do you not think, as to such places as the Wash and the south of the Sand Head, which to a certain extent are like the eastern coasts of the North Sea, and resemble each other in being shoaler waters, it might be advantageous to give them a special protection by the general law; I see your objection to a local law, but what do you say to a general law?—All I am able to say upon the matter is, I think that the three-mile limit, speaking generally, is an ample protection.

5350. I agree, but I ask you whether there are not some places which are nurseries, just like the eastern coast of the North Sea, to which special protection might be given, such as the Wash, and such as the place near your own port south of the Sand Head?—I hardly feel justified in saying yes on that point.

5351. Do you think there is something in it?—I think there is something in it, but it wants consideration, at any rate.

Mr. Buchanan.

5352. You would not like to give any opinion upon it, would you?—Not just now.

5353. With regard to steam trawlers, you told us that they go over the ground three times to a smack's once, and do it at all times of the year, and with two trawls instead of one, did you not?—Yes.

5354. So that that, probably, accounts for the greater destruction they cause than other forms of fishing, does it not?—Yes.

Mr. TUBAL CAIN TAYLOR, called in; and Examined.

Chairman.

5355. You have had long experience of steam trawling, I think?—Yes, trawling generally, I have.

5356. Have you been on sailing trawlers?—Both sailing and steam trawlers.

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Chairman—continued.

5357. Also, I think, you have been the mate of one of the North Sea steam carriers?—Yes.

5358. So that you have had exceptional facilities for noticing what is caught by steam trawlers?—Yes.

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5359. Tell

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MR. TAYLOR.

[Continued.]

Chairman—continued.

5359. Tell the Committee what your experience is; do you find a great number of small fish caught by the ordinary trawler in the North Sea?—Yes, a very great quantity, in certain seasons of the year, in the early part of the summer and the spring.

5360. In any particular places?—The greater part of the small plaice that are caught and brought to the English markets are certainly caught on the Danish and German coasts. I believe that the great cause of the decrease of the quantity of fish in the North Sea is due to the destruction of the young fish on the eastern side of the North Sea. That is my opinion from the experience that I have had, and I have been engaged as a trawler in the North Sea for 25 years.

Sir Albert Rollit.

5361. Where do you sail from?—From Hull.

Chairman.

5362. What proportion does the immature fish bear to the whole catch, should you say?—The last year or two, and especially this year, the great bulk of the catches have been all small from that particular part of the sea.

5363. But the fact that that particular part of the sea lies off a foreign country very much increases the difficulty of dealing with it, does it not?—Yes, that is so; I quite understand that.

5364. Is your view that a size limit ought to be imposed by the British Government?—Yes; I quite agree that the Government should restrict the sale of small fish, and I agree with the limit that has been laid down at the International Conference which was held three years since.

5365. Do you generally agree with the evidence which has been offered by Mr. Hatton and Mr. Exton?—Pretty generally.

5366. Will you tell the Committee if there are any points on which you differ at all?—I do not know that I could mention any particular point on which I materially differ from them. I think the whole question lays in the restriction of the sale. It seems to me that if the sale of the small fish is restricted, that will very materially help to settle the question.

5367. Would you agree that it is impossible to prohibit the capture?—There are so many difficulties in the way that I think it would be. There would be very great difficulty in carrying it out. Of course I quite understand that the English Government could not do this without an agreement with other powers.

5368. Is there any other point which you wish to bring before us?—I think, if a restriction is placed upon them, the masters or skippers of the carriers that bring such immense quantities of the young fish to London should have some power to refuse to take those fish on board. I think it is hardly right or necessary that they should carry it all the way here and then, perhaps, be punished.

5369. Do you think they could examine every trunk that is put on board?—No I do not think they could examine them all through, but still they could use a certain amount of discretion, and certain powers could be placed in them in that direction.

Chairman—continued.

5370. But still it is the practice, is it not, to fill up a trunk to some extent with small fish and put some good-sized fish on the top of it?—That is so, undoubtedly; but recently there has not been a sufficient quantity of large fish to cover the top of the boxes. The great bulk of them has been small so that there have been no large, and they have not been able to cull large ones out to cover up the small ones. It is a custom which has prevailed for some time, but I have seen some hundreds of tons in the present year landed at Hull, with no large fish amongst them at all; they were all small. Of course I am not only speaking my own views in the matter, but I am speaking the views of the great bulk of the fishermen of Hull. I have had opportunities of conversing with them on this point, and I know their opinions and their views on the matter, and I know that they generally favour, I might almost say unanimously favour, a restriction being put on the sale of undersized fish.

Dr. Clark.

5371. May I take it that your idea is, if such restriction were put upon the sale, that these trawlers would cease going to the various parts where the small fish are caught, and that they would go somewhere else?—Yes; I think it would be no use their going there for several years to come, at any rate. I think in all probability in a few years' time, if these grounds were practically left alone, the prime fish would increase in quantity there, and then possibly some of the vessels would go there on purpose to get the prime, and all the small plaice they caught they would throw overboard again, the same as they have done in years past.

5372. But they would be practically nearly all dead when thrown overboard, would they not?—Yes; after a vessel has been towing a trawl five or six hours, and got perhaps a ton or a ton and a half of fish in it, there is not many of them alive when they are thrown overboard again. There is such a heavy pressure put upon them that it is impossible for them to be alive.

5373. Do you think there are plenty of other fishing grounds, if they were prevented from landing the fish, or prevented by any other means fishing there, to go to and get fish?—Of course we recognise there is a scarcity of large fish in other parts of the sea, but still we think, if these grounds were left alone for a time, the fish would multiply faster, and that there would be a greater increase in mid-ocean near the fishing grounds.

5374. Would they multiply faster if you had foreign trawlers working over those grounds?—No; as I have said, I quite understand the difficulty unless an international agreement could be made.

5375. As far as trawlers are concerned, whether foreign or home, if they were all equally prevented landing fish here, that would require them to take them to other markets?—Yes, as far as the English trawler is concerned, certainly.

5376. And do you think that unless there were an international arrangement this remedy of yours would be of no use?—I believe the remedy of

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Mr. TAYLOR.

[Continued.]

Dr. Clark—continued.

of stopping the catch would be practically no use. I mean, supposing the English Government attempted to stop the English fishermen from fishing at these places, then the fishermen belonging to the other powers would get an advantage, unless they also had adopted the same means as the English Government did to stop it.

5377. So that you think the only solution is an agreement amongst all the International powers? —Yes, that the only way I see.

5378. As these banks are well known would you favour having them buoyed off, and fishing there prohibited?—I do not favour a restriction at all on the catching unless it can be done Internationally. If it could be done Internationally, then of course I should favour it, and the English fishermen would favour it.

5379. But you would not like to be prevented from going there, in so far as you would be prevented from selling the result of your going there, and that other foreign boats could go there and sell their stuff on the foreign coast?—You mean that in all probability the English fishermen would catch the fish and land it in other ports?

5380. No, I mean the foreign fishermen?—Yes, and in all probability some of the English fishermen would too.

5381. Do they sometimes do so?—Yes; and there would be a further inducement for them to do so.

5382. So that the result would be the small fish would not come here, but would go somewhere else?—Yes, if there was a market for it.

5383. But there is a market now, is there not?—There is a market, but there is not such a demand for it as there is in the English markets.

5384. But does not the supply, to a large extent, cause a demand?—Yes.

5385. There was no demand for it until you brought them in, and the supply has caused the demand to a certain extent, has it not?—I take it, if there was very little demand in the foreign ports for this class of fish, it would be very little use the English fishermen taking it there.

5386. Do you adopt the size the Fisheries Conference adopted?—Yes, I agree with that size, and also the men I represent agree with it.

5387. Are you aware that that size is below the spawning size?—Yes, I quite understand that. At least, I take it from what has been said by scientific men and experts who understand this question.

5388. But you have never yourself observed the size of spawning, have you?—I have no practical knowledge of that.

5389. To sum up your evidence then you think if the fish were prevented being sold that trawlers would not go to the districts where those small fish are, but would go somewhere else?—I think so.

Mr. Buchanan.

5390. The trawlers would not go there for two or three years, I think you said, did you not?—I think not.

5391. They would observe the law for a time, you think?—Yes.

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Mr. Buchanan—continued.

5392. Only as long as it was to their interest? —Yes.

5393. Then they would go back, would they? —Of course there is one point. We have two or three large fleets fishing in the North Sea which send their fish to the London markets?—Now, there are several interests concerned: there are the interests of the owners of the carriers, and their interest is to get large cargoes of fish. If this fish were prohibited being sold, their interest would be gone in that direction, and they would naturally want their vessels to fish where they could get cargoes that were saleable.

5394. But unless the trawlers chose to do it of their own accord the law could not be put in force, could it?—There would be some difficulty about it, I think.

5395. Supposing they did abstain from going, where would they go to fish?—In other parts of the sea.

5396. Would they go North?—Where they fish in the winter time. They do not visit these grounds where large quantities of small fish are caught in the winter months, it is only in the season when the young fish are there.

5397. What I meant to ask you was supposing this restriction were imposed, and you agreed not to go to these fishing grounds near the German coast where would the trawling fleets go to fish? —In other parts of the sea.

5398. What parts of the sea?—More in mid-ocean; on the Doggerbank, round the edges of the Dogger, down to the north of the Dogger, to the south of the Dogger, there are plenty of grounds for fishing, although the fish is scarce there.

Mr. Harry Foster.

5399. Then if they went to other parts of the sea to fish, would not the same thing take place there; would not they still be catching a lot of immature fish?—No.

5400. They could not keep them out of their nets, could they?—They do not catch many; they catch small quantities, but nothing like the large quantities they do on these special shoal-grounds on the eastern side.

5401. If you send these steam and sailing trawlers away from these grounds where they are now fishing and let them go free to some other fishing-ground, would not exactly the same thing take place there?—No; because the small fish are not in such quantities in other parts.

5402. Because the grounds have not been so much fished, do you mean?—The young fish are not there in such large quantities.

5403. That is to say, they have been allowed to come to greater maturity; I suppose they have grown, in fact?—Yes.

5404. Then, if these trawlers were to work on the grounds where they have been allowed to grow bigger, and were to do the same thing as they are doing off the Dutch and German coasts, would not the same thing happen there with their great catching power?—I think not.

5405. But why not?—Because I think that the great quantity of the young fish, when they get to a certain size, migrate from the shoal waters on the German coast to the deep waters.

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5406. Then

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Mr. TAYLOR.

[Continued.]

Mr. Harry Foster—continued.

5406. Then do you say these are really the nurseries?—Yes.

5407. Is the area easily defined?—Quite.

5408. Quite easily?—Quite easily.

5409. The area being easily defined, and that being the place where, in your view, all the damage is done, do you not think it would be better to close that area than to interfere with the question of the size of the fish. Would not that stop the thing at once?—In my opinion it would be a wise thing to close these areas if it could be done.

5410. I am putting it to you, do you not think it would be easier to do that than to prohibit the landing and sale of fish of any given size throughout the countries of the Great Powers?—Yes, if the nations bordering on the North Sea agreed to that.

5411. You think that would be a better remedy, do you?—Yes, if they agreed to it.

5412. Do you not think any of the harm is done by fishing on our own coasts?—I do not say that there is no harm done.

Mr. Harry Foster—continued.

5413. Practically speaking, no great harm?—Nothing like the harm that is done otherwise.

5414. Do you say you think the principal damage is done on the German and Dutch coasts?—Yes; nearly the whole of the small fish brought to the English market is brought from there.

5415. Therefore, if by International agreement, those areas which are easily defined, can be closed, would you say they should be closed for certain seasons of the year?—Yes.

5416. Not for the whole year?—No, I do not think it would be necessary to close them for the whole year.

5417. For how long should you say?—For six months of the year.

5417. From when to when?—From the early part of March to September.

5419. Then do I understand you to recommend as the very best remedy if it can be brought about, the closing of those areas between March and September by International agreement?—That, I believe, would be the very best remedy.

Tuesday, 27th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Major Jones.

Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Sir Albert Rollit.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. ROBERT BALLS, called in ; and Examined.

Chairman.

Chairman—continued.

5420. Do you live at Great Yarmouth?—
Yes.

5421. Are you an old fisherman?—Yes.

5422. How long have you been to sea?—
About 50 years.

5423. What sort of fishing have you principally been devoting yourself to?—Shrimping and herring catching.

5424. Do you do your herring catching in the summer months?—No, in the autumn months.

5425. And the rest of the year you shrimp, do you?—Yes.

5426. Do you get many small fish in your shrimp trawl?—No; we do not go out in a shrimp trawl; ours are bow nets; fish can swim out of our nets as fast as they go in.

5427. How do you work them?—We work the beam on the ground, and it has a round top, so that the net is always open.

5428. What is the length of your beam?—Ten to 12 feet.

5429. What is the size of the mesh of your net?—That is not all of a size. It is about an inch and a quarter, I should suppose, down to about three-quarters of an inch; that is, from knot to knot, not the mesh.

5430. Do you catch much in your net except shrimps?—No.

5431. Nothing?—Nothing but the fish that are of no use, the hardheads and such like; there are no flat fish laying hardly where we work.

5432. No plaice?—No.

5433. Do you ever get any small soles?—No; it is a chance if we ever get a good one.

5434. How long is your net down at a time?—Sometimes not more than a quarter of an hour; sometimes, perhaps, an hour or an hour and a quarter.

5435. When you lift the net are the fish alive or dead?—They are all alive.

5436. When you do happen to catch any small fish, what do you do with them?—Fling them overboard, because we want to clean our shrimps.

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The shrimps are soon dead, and we want to clean them while they are alive.

5437. Then you keep no small fish at all, do you?—No, not unless they are big enough to eat. If it is a nice sole we keep it.

5438. How small do you keep soles?—Thirteen or 14 inches long.

5439. Do you keep them as small as seven or eight inches?—No; they are no use to anyone.

5440. Then do you think, so far as your shrimp fishing is concerned, no harm is done to small fish at all?—Not in the least with our gear.

5441. I suppose you only fish within the territorial waters; do you ever go more than three miles from shore?—No.

5442. You fish in the shallow waters near the shore, do you?—Yes.

5443. Is yours a very small boat?—Yes; 20 feet long.

5444. Do you have two hands on board?—Yes.

5445. Have you many of these boats fishing from Yarmouth?—Between 90 and 100, I should think.

5446. Do you consider it would interfere with your trade if a prohibition was placed upon the landing of small-sized fish?—It would not hurt us in shrimping.

5447. Then you would not object to a law, would you, prohibiting the landing and sale of small flat fish?—No, not in the least.

5448. As to the herring fishing, how do you carry that on?—That is all drift fishing.

5449. You go out in different boats for that, of course?—Yes, in big craft. They all work by steam now.

5450. Do you think that the number of herring are as great as they used to be in your young days?—There are just as many.

5451. Do you see any change?—No change at all.

5452. Then may I take it that, so far as your views are concerned, you do not think there is any

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Mr. BALLS.

[Continued.]

Chairman—continued.

any necessity for any change in legislation for the benefit of fisheries?—I do not think there is any required in our line.

5453. Then do you think the best thing Parliament can do with regard to the fisheries is to leave them alone?—Yes. They might stop the small fish being caught by the deep-sea craft; but, of course, that has nothing to do with us.

5454. I am speaking with regard to yourself; you do not want any legislation, do you?—We do not want any legislation, or anything at all about it; we want to go on as we are.

5455. But at the same time you have no objection, I understand, to the landing and sale of these small flat fish being prohibited?—Not in the least.

Mr. Robert Price.

5456. You would object to anything like a close season for certain months, I suppose, would you not?—Yes, I should object to that.

Commander Bethell.

5457. Do you fish all the year round?—Not all at one trade. We do, off and on. Sometimes we lay up at the latter end of October, and do not start any more before January, but when there is a chance one keeps going.

5458. How far do you go from Yarmouth in the shrimping fishery?—Not above half a mile sometimes, but sometimes in the winter-time we go along the coast down as far as Winterton.

5459. Have you been all your life at this trade?—Yes.

5460. Do you happen to know if the sort of net you use is peculiar to Yarmouth?—Yes; trawls, of course, are different.

5461. Is that a common form of shrimping net, do you know, that you use?—Yes.

5462. It is not used in the Humber, is it?—I never saw one in the Humber in my life.

5463. Do you know of other places where that net is used?—I believe they have some in

Commander Bethell—continued.

the west, but I have never seen any others about our part.

5464. You say there is practically no destruction of fish life in the nets you use, do you?—No, not in the least.

5465. Do you not bring up a lot of dirt and mud in the net?—Sometimes we might, but it is all rough, hard ground where we work.

5466. What is the nature of the bottom off Yarmouth?—In places it is soft, but we cannot work these beams there because they bury themselves; our beams go on the ground.

5467. I suppose, when you do bring up dirt in your nets, any fish there are there are smothered, are they not?—We do not get any fish then, because as soon as we get on to the soft ground we are brought up and stopped; we cannot work our nets; we cannot get along; we are fast.

5468. Do any of the shrimp trawlers use other nets?—They use trawls for soles.

5469. I mean in fishing for shrimps?—Yes, by chance. I have one, but I never hardly use it except in the winter-time, along the beach, fishing for brown shrimps.

5470. Why do you prefer the net you are in the habit of using?—Because it is better for rough ground; the beam jumps over the ground different to what the others would.

Colonel Cotton-Jodrell.

5471. You do not get many other fish except shrimps in your net, do you?—No.

5472. You said you were always able to throw them overboard if you caught them, did you not?—Yes.

5473. Do they live, do you suppose, after you have thrown them overboard?—Yes, because they are strong and alive.

5474. How soon do you throw them overboard?—As soon as we get the shrimps out.

5475. In ten minutes or so?—In two or three minutes sometimes.

*Mr. WILLIAM PRENTICE, called in; and Examined.**Chairman.*

5476. Do you live at Great Yarmouth?—Yes.

5477. Are you an owner of fishing boats?—I am a trawling fisherman, and a managing owner of 12 trawling boats.

5478. You have 12 under your charge, have you?—Yes.

5479. Are you personally interested in their takes?—Yes.

5480. Do you take a share?—Yes; that is my living.

5481. What sized boats are they?—They range from 37 to 73 tons.

5482. Do they trawl separately on their own account, or in fleets?—Our 12 boats work the fleet in summer-time, and in winter they work by single boat. They work as a fleet by themselves in the summer-time.

Chairman—continued.

5483. What is the length of beam of your trawls?—They run from 41 to 53 feet.

5484. Are the boats sailing boats?—Yes, all of them.

5485. Do you work the trawl with a donkey engine?—Yes, in eight out of 12 boats.

5486. What part of the North Sea do you principally trawl in?—Different parts of the North Sea, according to where the fish are, and according to different times of the year.

5487. What is your experience; do you consider there has been a falling off in the number of fish in the North Sea?—No.

5488. You think there has been none, do you?—There is no falling off, except of matured fish.

5489. There is a falling off of the large fish, you think?—Yes.

5490. But

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Mr. PRENTICE.

[Continued.]

Chairman—continued.

5490. But your general take has not fallen off, has it?—No, the general take has not fallen off.

5491. Do you get higher prices or lower prices than you used to get?—Much lower prices on account of the fish being so small. If we get good fish we get good prices, but it is very seldom we get many good fish now.

5492. How many years have you been connected with these trawling boats?—Thirty-seven years.

5493. Do you find the business a less profitable one than it used to be?—Yes, much.

5494. Do you attribute that principally to the lower price you get for your fish, because they are smaller than they used to be?—Yes.

5495. To what do you attribute this falling off in the size of fish?—Larger killing power, and there is a market for the sale of the small fish, and while there is a market for the sale of the small fish the fisherman will catch them, though at the same time he does not wish to catch them, because he knows he will get very little remuneration for them.

5496. Then you attribute it to over-fishing, in fact, do you not?—Yes, and to the sale of them. If there was no sale for them the men would throw them overboard as soon as they caught them, and half of them, I guarantee, would live.

5497. How long are your trawls down?—Sometimes five or six hours, sometimes eight or nine hours; it all depends upon where we are working.

5498. What is your general experience as to the condition the fish are in when they are brought on board?—They are about half alive and half dead.

5499. Do you throw the small fish overboard yourself?—Not now.

5500. You keep everything, do you?—Yes, since there has been a market for them.

5501. What remedies would you propose to improve the state of the fisheries in the North Sea?—Prohibit the sale of the small fish up to a certain size.

5502. You would not prohibit their capture, would you?—You cannot prohibit their capture; you cannot stop men from catching them.

5503. But you would prohibit, would you not, their landing and sale?—Just so.

5504. Below what sizes would you prohibit the landing and sale of flat fish?—Turbot, 12 inches; brill, 12 inches; sole, 10 inches; and plaice, 12 inches.

5505. Supposing Parliament was to prohibit the landing and sale of fishes under the size you mention, do you think that would suffice to restore the fisheries in the North Sea?—In less than twelve months we should all get the benefit of it.

5506. Would such a prohibition be generally accepted by all the trawlers in the North Sea?—By the fishermen themselves it would.

5507. Do you think it would be practicable on the deck of a trawler when the trawl is emptied to sort this fish into different sizes?—We always used to do it until late years.

5508. You do not do it now, do you?—No; we take a shovel and shovel them into the trunks now.

5509. Do you think in all weathers you could
O.93.

Chairman—continued.

sort your catch and return your small fish into the sea?—If the weather was bad. We used to empty the cod ends into the hold and sort them there, and as soon as we had got the matured fish we used to empty the others overboard; that was the practice up to late years.

5510. Is it your belief that a large proportion of these fish, so thrown back, would live?—Yes, a good half of them, I believe.

5511. Do you think there would be any possibility of regulating the mesh of trawling nets?—I think it is a thing you do not want to go into at all, because I do not think it is of any use. I have tried all manner of experiments.

5512. Have you any experience with regard to the drift-net fishing for herrings?—I never went herring fishing except once.

5513. You do not wish to give any evidence with regard to that, do you?—No. It is the steam carrying companies that have introduced the sale of small fry into the markets. Before we had the large steam fleets and steam carriers we always used to send only matured fish, and throw the small overboard, but when they got large steamers to run the fleets, they wanted something to pay their freights, and the consequence was, they sent home everything that was caught.

5514. Is it on certain grounds in the North Sea that you find this small fish more particularly?—Sometimes there is a great catch of small fry along the Dutch coast, but I have seen just as large a catch of small fry in the middle of the sea as I have along the coast; you cannot confine the small fry to a longshore.

5515. Then you think that simply by avoiding certain grounds you would not prevent the capture of small fish?—You cannot; it is impossible.

5516. Former witnesses have really urged on us the prohibition of sale and landing of these small fish in order to prevent vessels going on to these fishing grounds on the Dutch coast. What do you say as to that?—Perhaps they have not been on the grounds so many years as I have.

5517. You do not agree with them, I understand, do you?—Not at all.

5518. In fact would you say that the great safeguard is returning these small fish to the sea?—That is so.

5519. Do you think there is no other legislative interference required on the part of Government besides?—I think not.

5520. Would you have a close time?—No; it is no use to have that.

5521. Nor any regulation of mesh of net?—No.

5522. Is there anything else you wish to tell us?—No.

Commander Bethell.

5523. Why would you have no close time?—When I can see it would do any good I will vote for it, but I cannot see it will do any good because the fish are not all breeding at one time of the year.

5524. It is true they are not all breeding at
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Mr. PRENTICE.

[Continued.]

Commander *Bethell*—continued.

one time of the year, but the bulk of them are, are not they?—Oh, no.

5525. It might do harm to the fishermen, but if you could have a close time surely it would allow the fishes to mature, would it not?—A close time would do no good at all, in my opinion.

5526. You say that fish in the North Sea are at different parts at different seasons, do you?—Yes.

5527. Do you mean that the small fishes migrate or that the big fishes migrate?—Small fish migrate about as well as large fish, in my opinion.

5528. Do you know the different places at which you ought to look for them?—I believe so; at any time of the year I can go and find where any fish lay, that is my practical knowledge.

5529. Then the small and big fish do not keep together, do they?—They mix up.

5530. Your knowledge will not allow you to go to a place and catch big fish, and avoid small fish, will it?—That is a thing which is impossible to know; you know where large fish used to be years back; but they are not there now.

5531. They have left the place altogether, have they?—They are caught, they are not there.

5532. Do you think that those grounds have been over-fished?—Yes.

5533. Do you attribute the depletion of these grounds to overfishing or to the migration of the fishes during the year?—Steam power has a great deal to do with it. There is no depletion of the fish, it is only a depletion of the matured fish.

5534. Witnesses we have had before, I think, have almost all told us that although the fishes have got smaller, and the matured fish are much fewer, yet the profits to be made out of fishing are larger than they used to be?—That is not the case, not by more than half.

5535. But the price of fish has gone up largely, has it not?—I have not seen it.

5536. The price of matured fish has, has it not?—I have not seen it.

5537. Not flat fish?—No.

5538. I think all the other witnesses have told us that the price of fish has gone up considerably?—Are you talking of the present time or a year or two back.

5539. Within the last two or three years?—That is on account of the scarcity of the matured fish. Where you get one box of matured soles, you get three or four trunks of nothing but slips.

5540. But still the price has gone up, has it not, during the last two or three years?—There has not been enough to meet the demand for matured fish.

Mr. JOHN WRIGHT, called in; and Examined.

Chairman.

5553. HAVE you come here as one of two representatives of the West Coast Fishermen and Labourers Amalgamation Society?—Yes.

5554. I suppose it is a trades union of fishermen, is it not?—Yes.

Commander *Bethell*—continued.

5541. But you get a better price for the fish that there are, do you not?—Yes; but if we do not get any fish, what is the use of that?

5542. But those that you do get you get a better price for, do you not?—Yes; but it is very few we get, I am sorry to say.

5543. But the better price is not enough to make up for the fewer fishes, is it?—No.

Major *Jones*.

5544. Have you no faith in the principle of avoiding certain areas, known as breeding areas?—Not at all; no faith in it at all.

5545. You say if you threw the immature fish overboard, 50 per cent. would live. Do you wish to convey that idea if the trawl is down eight or nine hours. Do you think that 50 per cent. of the immature fish thrown overboard would live, if the trawl were down eight or nine hours?—It is not always down that time. You cannot limit your time; I am talking of the usual way of working. We work each tide.

5546. Taking one time with the other, do you mean to convey the idea that 50 per cent. would live?—I cannot go into it so close as that. You cannot limit your time. Sometimes the trawl is only down two or three hours, or sometimes only an hour; it all depends on where we are working.

5547. Do you think it would be possible to make short hauls compulsory?—No; not unless you want to kill people altogether; it is bad enough as it is; it is a dog's life now to any man in the winter time is a trawler's life.

5548. Have you any idea with regard to any type of trawl which would expedite handling and allowing the escape of immature fish?—No. I have heard tell of a lot of that sort of thing, but I have tried it, and never could get it to work. I have tried square mesh, and tried everything.

Mr. *Robert Price*.

5549. The total weight of fish that you catch has not been so much reduced has it, it is the size of the fish, is it not?—That is all.

5550. Is the total weight about the same?—About the same.

5551. You said you have made several experiments with regard to mesh. You say you tried the square mesh; have you tried a larger mesh?—Yes; but I could never find much use in it, because when you are trawling along, your cod end gets full of weeds and the net closes up.

5552. Then in your opinion are the undersized fish about the same in proportion with a large as with a small mesh?—About the same.

Chairman—continued.

5555. Where do you fish?—In the territorial waters.

5556. Whereabouts?—From Blackpool to Liverpool chiefly.

5557. What is the principal fish that you catch?

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Mr. WRIGHT.

[Continued.]

Chairman—continued.

catch?—From the beginning of April to October I myself catch flukes and soles.

5558. With a trawl?—Yes, with a trawl.

5559. What sized trawl?—Seven inch mesh.

5560. What length of beam?—From 28 to 26 feet.

5561. Then the rest of the year what do you do?—Catch shrimps.

5562. Do you fish with the shrimp trawl?—No.

5563. How do you catch them?—With a bow net.

5564. The same sort of net that we heard described by the Yarmouth man?—Yes, with about 10-foot beam with an arch over the top.

5565. How long have you been a fisherman?—I have been a fisherman 18 years in these waters.

5566. Do you get as good catches now as you used to?—For the last six years we have got better catches than ever we have known in the territorial waters.

5567. To what do you attribute those good catches during the last six years?—I do not know what to attribute them to, but we have done as well or better for the last six years, and have followed it up every year, than ever we have been known to do before, both in regard to flounders and soles, but more particularly we have done better the last two years in soles than ever before.

5568. Would your view be that fishermen ought to be left alone without any regulations made with regard to them, or do you think any regulations are required with regard to the fisheries in your part of the world?—As far as we are concerned we have no objection to the size of mesh, we think it is a great salvation to the immature fish in the territorial waters.

5569. Would you like to have the size of the mesh regulated?—Yes; as stated in the by-laws.

5570. Would you object to any prohibition of the landing and sale of small fish?—I think it would be a very great injury on the west coast; it would practically do away with the fluke and sole trawling.

5571. What is the size of the flukes and soles you catch principally?—From 2 lbs. to three in the lb.

5572. Can you give us the approximate length of the fish; do you catch fish as small as six or seven inches?—No; not very many that size. They all escape out of the net.

5573. Supposing a limit of eight inches was fixed below which soles could not be taken, that would not affect you very much, would it?—I think it would be a great encumbrance on the fishermen.

5574. Do you get many soles under eight inches in length?—The mesh we have will not allow us to take them under that size.

5575. These regulations with regard to the mesh have been made by the Lancashire District Fishery Committee, I suppose?—Yes.

5576. Have you ever taken a very great interest in the fisheries?—Yes.

5577. Are the regulations made by the Lancashire District Fishery Committee generally 0.93.

Chairman—continued.

accepted by the fishermen?—They are as they stand at present.

5578. Have there been any difficulties between the fishermen and the committee?—With this exception, that the fishermen want a six-inch mesh for three months in the year, and a seven-inch mesh for the remaining part of the year. The six-inch mesh is to allow for trawling for soles.

5579. What is the present regulation?—The present regulation was passed at the Fisheries committee at Preston on Thursday for the six-inch mesh three months of the year, and a seven-inch mesh for the other parts of the year.

5580. That is what you want, is it not?—Yes.

5581. Does that meet your views?—That meets our views on the west coast.

5582. So that I may fairly say, may I, that you and the committee work very happily together?—Yes; in the way of trawling.

5583. Have you any complaint to make with regard to the committee?—We object to any closed places.

5584. Do you object to any particular grounds being closed?—Yes.

5585. On what grounds?—Because if they do close grounds, the immature fish move about. You might close a place to-day, and go and fish on that ground to-morrow when there is not an immature fish to be caught, and after you have closed that portion of ground there might be nothing but clean shrimps on it the day after. We find in our occupation that the immature fish move about very often. When we have gone to our occupation in the morning and fished we have caught shrimps quite clean; but before we have done fishing it may be quite the reverse, and we have to shift our place. Of course, we do not make it a practice to fish on a particular ground as soon as we find out that there are any immature fish there.

5586. Then would your view be that it is impossible to lay down any particular portion of ground as being specially occupied by small fish?—Yes.

5587. And that they move about over the whole of it, so that to prohibit a small portion is not really of much service?—I think it is of no service at all.

5588. Do you think that the fisheries have improved since the establishment of the District Fisheries Committee, and the regulations that they have made?—I could not say.

5589. How long have the committee been at work?—Two years.

5590. And it is during these last two years you have noticed such good captures of fish?—I do not know that it has been so very much better than it has been for the last six years.

5591. But you told me that during the last six years your captures of fish had been better than during the former 12 years in your 18 years' experience?—Yes.

5592. And that during the last two years especially you had noticed particularly good captures of soles?—Yes.

5593. And during those two years this new Fisheries Committee has been at work, has it not?—Yes.

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5594. And,

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Mr. WRIGHT.

[Continued.]

Chairman—continued.

5594. And, without saying that it is owing to them, at any rate, they have done you no harm, it is evident?—Oh, no.

5595. On the whole, it would rather go to show that the district committee has been of service to you, would it not?—Well, I think the size of the mesh is of service.

5596. Is there any other point you wish to give evidence upon?—No.

5597. If there is any point which your association wishes to bring before us, tell us?—There is a point with regard to the export of foreign shrimps into England, and being sold as Southport shrimps.

5598. Where do these shrimps come from?—Holland.

5599. Where are they sold as Southport shrimps?—They come into Southport, and they are potted. Some come into Southport, and are sent to Manchester, London, and to different parts, and sold as Southport shrimps.

5600. Are they not of as good a quality as your own shrimps?—No, they are not, by a long way. They are stopping the sale of Southport shrimps altogether, very nearly. People will not buy Southport shrimps now, as they used to do, and we cannot get anything near as good prices since this practice began as we could before for shrimps.

5601. What remedy would you propose for this?—We should propose that they should be labelled "Holland shrimps"; that is all we want, and let our shrimps sell for what they are. I have been in two or three markets at Manchester and Wigan, and am told they cannot sell Southport shrimps on account of these German shrimps being labelled Southport shrimps.

5602. Do not fish salesmen have regard to the quality of shrimps they are going to buy; surely a fish salesman considers the quality of the shrimps before he makes his bargain, does he not?—These shrimps are picked when they come from Germany; they are stewed in butter, put into pots, and buttered, and then they are labelled on the top with a label "Southport potted shrimps." Then, when people come to eat them, they have so much what we call (I do not know whether it is the proper name) "faking" in them that it makes the shrimps tough, so that people get so that they will not buy them.

5603. Then the greater part of the shrimps are sold in a potted condition, are they, and not sold fresh?—The greater part are sold in pots. The larger shrimps we send away without being potted.

5604. But the smaller shrimps are potted, are they?—Yes, picked and potted.

5605. They are put into butter, I understand?—Yes, they are stewed in butter, and butter is put on the top.

5606. That is to keep the air out, is it not?—Yes.

5607. And what you would demand is, that these things should be labelled; but I should have thought that would have come under the Merchandise Marks Act?—Yes. That has been for many years now a very great grievance amongst Southport fishermen, and the amalga-

Chairman—continued.

tion is very desirous that some steps should be taken upon it. There are two or three people, fish salesmen, who get these shrimps direct, and send them to the market.

Mr. Robert Price.

5608. With regard to the mesh, you said that, as a matter of fact, with your seven-inch mesh, you did not catch any soles below eight inches?—We have not a seven-inch mesh at the soleing time of the year.

5609. Then is it with the six-inch mesh?—The six-inch mesh; we have never tried before this year.

5610. With the seven-inch mesh, before this time, you did not catch any soles below eight inches, I understand?—A sole over a pound weight will go through a seven-inch mesh easily.

5611. And, as a matter of fact, you did not catch any small soles, did you?—No; and we never shall catch any quantity fit for market with the seven-inch mesh at all.

5612. Then do you think that with a large mesh the small fish escape?—I do.

5613. What do you think would be the smallest sole you would catch with a six-inch mesh?—As a general rule I should say somewhere about half a pound in weight.

5614. What length of sole would that be?—I have never measured it; I could not say.

5615. Would it be about an eight-inch sole?—I have never measured it.

5616. What sort of a bottom have you got off your coast?—A sandy bottom.

Major Jones.

5617. Have you no faith that a close time for certain breeding areas would be any good for the fishing industry?—I have had no experience as to breeding areas. The territorial waters are not in the breeding areas at all.

5618. Where you have been in the habit of catching small immature fish you do not seem to be of opinion that there are certain areas where the immature fish are to be found regularly?—No.

5619. You say they move about; how far do they move about?—We have what we call spots, or places for fishing. We do not fish anywhere along the coast, and we know that when we go to one place, fishing one day, the ground might be free from immature fish, but if we go to it, say, the day after, we might have to go away as soon as we got there to another place a mile or half a mile distant, to find a place where the immature fish are not.

5620. Do you give us as your opinion that the migration from place to place would be a matter of a mile in point of distance?—I do.

5621. And not more than that, you think?—They may go from a mile to two miles, and even further than that.

5622-3. Will you please tell me whether these shrimps from Germany come to Southport in bulk or in pots?—In bulk.

5624. Are they potted at Southport and labelled "Southport shrimps"?—They are.

5625. Where

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MR. WRIGHT.

[Continued.]

Major Jones—continued.

5625. Where do they get the pots from, do you know?—From the Potteries.

5626. In this country?—Yes.

Commander Bethell.

5627. Do you not think it will be worth while continuing the experiment of shutting up small portions of the sea, as the Lancashire District Committee have done, to see what the real effect will be?—I do not.

5628. But the Lancashire Committee have only closed these areas for two years, and that is not long enough to form a very good opinion, is it?—My opinion is, as I have said, that the fish move about; you could not close a part in the Lancashire Sea Fishery District one day which might not be entirely free from immature fish the day after.

5629. But do you not think, as the experiment has been tried for only such a short time, it would be wise to continue it for some few years, to see what results flow from it?—I do not think it is of any advantage to the fishermen in the least.

5630. What size trawl are you allowed to use?—As high as 30 feet.

5631. Does that give satisfaction to the fishermen?—There are very few boats that use any larger beam for any time in our district.

5632. Has it kept out the stranger fishermen who used to come there?—Yes.

5633. Has it had that effect?—Yes.

5634. Do you approve of that?—We are not particular whether he comes or not; we think he has as much right there as us.

5635. Should you object to steam trawlers with two trawls and 50-feet beam coming into your grounds?—They would clear the fish for us.

5636. And you would object to that, would you not?—We should object to their coming unless they had the same size mesh as we had.

5637. Supposing they had the same size mesh you would not mind steam trawlers, double trawls, and 50-feet beams coming and raking over your grounds?—There is not one case in a hundred that they could do it.

5638. They are not allowed to now, are they?—No; and they never did when they were allowed. It would not be safe for them to come with these large trawlers because of the banks.

5639. On the whole, do you think the regulation is a good one?—I do.

5640. Are you clear that the size of the mesh has a good deal to do with the size of the fish that is caught?—I am sure.

5641. We have had a good many witnesses who have denied that?—In the territorial waters?

5642. In any waters. They say a big mesh when dragged along gets so tight that the little fishes are kept in the net?—Where we catch one immature fish to-day with the four-inch mesh we caught more than 20. That is the experience with us.

5643. That is what one would have expected, but that is not the evidence we have had?—That is the case with us.

5644. Is it a diamond-shaped mesh?—Yes.

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Commander Bethell—continued.

5645. Do you as a matter of fact have many boats from a distance come to fish in your waters?—No.

Colonel Cotton-Jodrell.

5646. Although you have no steam trawlers there are considerably larger trawlers than the boat you use yourself in the district, are there not?—In the Southport district?

5647. No, in the Lancashire Sea Fishery district?—Yes.

5648. They have a beam of about 45 to 50 feet, have they not?—Yes.

5649. Although they are not steam but sailing boats?—Yes.

5650. Do they affect your fishing much?—They only come in during three months of the year after soles.

5651. Is that part of the new bye-laws?—Yes; they do not trawl with us only at that time of the year.

5652. So that you have no evidence particularly to give as to how the bye-law affects them, have you? Can you speak from experience yourself?—No, I have never had any experience in deep-sea trawling as to the bye-law.

5653. You have not been used to deep-sea trawling?—Yes, I was for three years.

5654. Then you were prohibited from going into the territorial waters at all, were you not?—The bye-laws were not made then.

5655. Were there no bye-laws then?—No.

5656. You say that you have had better catches in the territorial waters in the last six years than ever have been known?—I should like to qualify that by saying in the way of catching flukes and soles.

5657. You spoke originally about flukes and soles, and so on, I understood?—Yes; that is so.

5658. Do you consider that the fish, from a money point of view, is as remunerative as it used to be?—I find it is as good with us.

5659. You do, do you?—Yes.

5660. Has the price gone up?—The price is as good or better with us to-day than ever it was for flukes and soles.

5661. Have you any sale for small immature fish?—No.

5662. How long has the seven-inch mesh been in use?—Two years.

5663. Before that time what did you yourself use?—A five-inch.

5664. Were you at all opposed to the idea of the seven-inch mesh when first it was proposed?—Not for flukes.

5665. For soles?—Yes; for soles.

5666. We had a witness here some time ago who told us in his opinion a mesh which would catch a nine-inch plaice would let a 15-inch sole go through; do you agree with that?—I have never measured them, but a large sole will go through where a smaller plaice could not.

5667. A sole fresh in the sea-water is particularly active, is he not; he can curl himself up, can he not?—Yes; very active, and can go through a very small mesh.

5668. Do you think that the new bye-law which has been adopted recently as to the six-inch mesh for three months of the year, is a good

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Mr. WRIGHT.

[Continued.]

Colonel Cotton-Jodrell—continued.

and proper thing?—I think it will meet the requirements of the fishermen.

5669. Do you know anything about the fishermen on the Mersey side?—We fish as far as the Mersey, but we do not fish the other side.

5670. You do not fish on the Cheshire side?—We do not fish much on the Cheshire side.

5671. Have you heard any complaints by the Hoylake fishermen?—Yes.

5672. Do you consider that they are well founded?—We petitioned for a six-inch mesh and, of course, that is what we agreed to. They want a five inch, but we are satisfied with the six, which we think is little enough for soles.

5673. The Lancashire Sea Fisheries Board have been carrying out certain experiments lately with the view of studying the habits and breeding of fish; have you seen the results of any of those experiments?—I have.

5674. Do you think that they will do good?—No; I think they are not a thing to bring before the public, because they are not tried actually on practical grounds. That is my idea. With regard to the experiments made by the different parties who have made them, Professor Herdman and Mr. Dawson, where we are shrimping, they just tried their experiments outside where we were pulling our nets in, on account of immature fish. They tried their experiments at places we were going away from. In any experiments we have seen them make, and we have seen them making a lot of them, it is so.

5675. Have you watched them making experiments in sole trawling?—Yes.

5676. Then I understand you do not think they are proceeding on very practical lines?—In regard to sole trawling, do you mean?

5677. Yes?—I have never seen any results as to sole trawling, because there have not been any this year.

5678. They published some statistics about the numbers of small flat fish they took up with the shrimp trawl?—Yes.

5679. Have you seen them?—Yes; I have them here.

5680. Do you find that when you are shrimping you catch many small flat fish?—Not very many; not a hundredth part of what is represented in these experiments as a general rule.

Colonel Cotton-Jodrell—continued.

5681. But then you are using a different net, are you not?—We are using a bow net, and they use a trawl.

5682. And I suppose they would naturally catch more, would they not. A trawl net is much longer on the ground, is it not, than your net?—A trawl net is not a proper net to try experiments with outside the channel. A trawl net is used in the channel where the tide is running, and a trawl net will catch more than twenty times as much as a bow net outside.

5683. Do you consider, over the ground they are working, they are using a wrong sort of net?—Yes; outside the channel, I do.

5684. Do you find many small fish in your bow nets?—If we come amongst small fishes, we pull our nets in, and shift as quickly as possible. We have four nets belonging to one boat, and we are continually looking over the net, and if we come to a place where there are immature fish, we pull our nets in and stand back again.

5685. Do you do that out of a desire not to disturb the immature fish?—We do.

5686. You have not given us any evidence as to shell-fish and mussels: do you know anything about them?—The next witness is to do that.

Chairman.

5687. The Lancashire District Fishery Committee have established a police service of their own, have they not?—Yes.

5688. Have the operations of that body been at all resisted by the fishermen?—Not that I am aware of; not in our district.

5689. Has there been no collision between the police and the fishermen?—Not that I am aware of.

5690. Do you think the action of the police will be generally accepted by the fishermen in your district?—I do, under the bye-laws in existence.

5691. In fact, do you approve of the county council having a police to enforce their bye-laws?—Yes, as it is at present. We object to them calling in the coastguard.

5692. Do you prefer it should be done by the police-boat of the committee?—Yes.

Mr. L. ABRAM, called in; and Examined.

Chairman.

5693. Do you fish on the same grounds as the last witness?—No.

5694. Where do you fish?—I am a stake-net fisherman.

5695. What do you catch?—Flukes.

5696. Do you ever catch anything else in them?—Scarce ever; very seldom.

5697. Did you ever see a sea-trout in your net?—I have seen odd ones in.

5698. An odd one or two?—Yes; very few.

5699. Where are your stake-nets; have you a particular place where your stake-nets are set?—It is to the eastward of Southport, between Southport and the banks, on towards Preston way.

Chairman—continued.

5700. What is the size of the mesh of your net?—Seven inches.

5701. Do you have good catches of flukes in your net?—Not extra good.

5702. On the whole, do you make a good livelihood out of your net?—We can just manage to live nicely.

5703. What do you call a good night's work?—I do not know what you mean by a good night's work.

5704. What do you consider a good catch?—I should consider ten or a dozen score weight a good catch.

5705. How many fish would that represent?—
I could

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Mr. ABRAM.

[Continued.]

Chairman—continued.

I could not tell you that; I never counted them.

5706. Would it be a good many?—Yes.

5707. Would there be many small ones amongst them?—No; not with the 7-inch mesh.

5708. What is the smallest fish you catch?—Three to four to the pound.

5709. Can you tell us what sort of size those fish would be in length?—No, I cannot; I never measured one.

5710. Would they be under eight inches?—I really cannot say.

5711. How long have you been a fisherman?—Forty-five years.

5712. Do you get as good catches now as you used to 20 years ago?—Not so good with the 7-inch mesh as with the 5-inch mesh.

5713. But you got more small fish in the 5-inch mesh net, I suppose?—Yes.

5714. Do you think the fisheries have improved during the last few years, or not?—I do not think they have.

5715. What is your view with regard to these regulations which have been made by the district committee?—I agree with the 7-inch mesh for flukes, because everything that is not saleable can be turned away.

5716. Would you be opposed to a size limit under which you are not to sell or land fish?—It would be a terrible bother to fishermen.

5717. Do you think it would interfere with your business?—It would greatly.

5718. Do you think then that so far as your fishing is concerned, that the right thing to do is to regulate the mesh?—Yes, regulate the mesh.

5719. Are you quite willing to accept those regulations and abide by them?—We are quite willing to accept those regulations just as they stand.

5720. Do you think it is desirable that any further law should be passed in reference to the fisheries in your district, or do you think they

Chairman—continued.

had better be left alone?—I should prefer them to be left alone.

5721. You also catch cockles at times, do you not?—Yes, during the winter.

5722. Is that a profitable fishery?—Well, there are plenty of them.

5723. Are there plenty of them now?—Yes.

5724. Then you do not think any regulation is required with regard to them, do you?—I do not think we could amend that. They are that plentiful in the beds, that if they were not taken away they would heap up in lumps; they would get together and smother.

5725. May I take it from yours and Mr. Wright's evidence, as representing your association, that on the whole you are well satisfied with the condition of the fisheries in your district, and you do not think that this Committee need interfere with regard to them?—Yes, with the exception of one thing; this stake net for shrimps is too much in circumference, at the cod end. I will tell you why; they are only 141 meshes on the top and we have been compelled to have them 100 at the bottom; and we cannot make them like a net, they are more like a sack. That is the only objection. There is no objection to the size of the mesh in the least.

5726. What regulation would you prefer?—I should prefer 50 meshes below and 141 on top, which would be fair.

5727. Would that make your net a better shape?—Yes, it would make it a nice shape; but as it is we cannot make a net a shape of a net.

5728. What is the size of the mesh of these nets?—They are three-eighths of an inch from knot to knot; that is the legal width.

Colonel Cotton-Jodrell.

5729. Do you do any cockle or mussel fishing, except off Southport?—No.

5730. You do not go down the Dee, do you?—No.

Mr. A. W. MACONCHIE, called in; and Examined.

Chairman.

5731. You are, I believe, largely, and have been for a long time, interested in the fishing trade?—Yes; 25 years.

5732. Principally as a curer, I believe?—Curing and preserving.

5733. Herrings and haddocks?—Every kind of fish, but principally herrings.

5734. I think the principal point you want to bring before the Committee is the question which has been mooted with regard to a close time for herring on the Scotch coast, is it not?—Yes, exactly.

5735. You are engaged, I believe, in the herring fishing at Fraserburgh and Lowestoft, are you not?—Yes; and Stornoway.

5736. Will you give us your views on the subject of a close time for herrings?—In the first place, as regards a close time for herrings in Scotland, we have already, through the religious scruples of our fishermen a close time as far as Saturday night and Sunday night are concerned, 0.93.

Chairman—continued.

forming nearly one-third of the total period during which they fish; if you add to that the percentage of broken weather during the fishing, they already lose about a third of their time. My experience, extending over 25 years, has been, that any legislation regarding herrings that may be attempted would certainly be wrong, for the following reasons: herrings mature on different parts of the coast, at different periods of the year. We will take the Summer fishing which begins first, that is on the west coast of Scotland at Lewis; this fishing begins or should begin at the end of April or the beginning of May. The shoals at Stornoway work up the Atlantic the west side of Lewis round by the Butt, and work eastward toward Cape Wrath and the Pentland Firth. During the whole time I was there, our boats used to go out from Stornoway at the beginning of the season, and fish midway between North Rona, the Butt of Lewis, and Cape Wrath, that is to say, those places

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Chairman—continued.

places would form a triangle, and they would fish right across it. We got very heavy catches at the end of April and beginning of May, and broke up the shoals, and diverted a considerable quantity of the herrings down to the Minch; the quantity we diverted used to last us until the end of the fishing. The Stornoway fishermen are in a very bad position, and they are naturally anxious like all men to do the best for themselves. Some few years ago, they insisted upon introducing a close time for herrings, from the 15th April to 15th May; they argued that their crofts required them about that time, and it would suit their convenience if they could limit the catch, and that they would do better, irrespective of how it might affect the fishermen coming from the east coast. Well they carried their point, not without, I think, some intimidation.

5737. How did they enforce the close time?—In a very simple way; the Highlanders with us are naturally rather hot blooded, and if they did not agree they went and cut the back ropes at night; it is not often done but it has been done, and these coast men as a rule are a very quiet race of men, very plodding; they are no better fishermen than the west coast men, but the west coast men are of a rather more determined type. You cannot blame them because they have very little to depend upon, and they are prohibited sending their fish to market by the railway rates being very heavy; for instance, a cod at Stornoway would make 6d., but they cannot buy it and send it to England, because the carriage to England would come to over 6d., so that they are naturally anxious to do the best for themselves. At Stornoway last year, the average number of boats would be 700, and this year about the same. The close time was enforced again this year, and owing to the extraordinary early season we have had on the land and the hot weather, the fish matured early, and when the boats went to fish this year, they were really behind the tail of the shoals. The shoals worked east towards the Pentland Firth, and they got very few, they got about 15,000 instead of about 90,000 crans for last year, and the fishing practically collapsed in a fortnight. The value of the fish last year would be about 70,000l., the expenses in the way of labour and sea freight would be another 30,000l., making in round figures 100,000l. But this year the fishing produced about 20,000l., during the very short time it lasted, and the loss would be, through the enforced close time this season to Stornoway, the fishermen visiting there, and the native fishermen putting it roughly, 70,000l.

5738. Has that loss been compensated for by better fishing in other places?—No.

5739. Not at Wick?—They have had a very good fishing there, such as they never had before.

5740. Do you attribute that to the fact of the shoals not having been interfered with on the west coast?—Yes; also on the west side of Orkney, Stowness, and the west side of Shetland.

5741. Do you think that these shoals which would have been caught off the Butt of Lewis would have been broken up, but now came in

Chairman—continued.

their full force farther east?—Yes; they were not prepared to catch them, they had not the number of boats. It has affected the east coast, all the boats commencing much earlier. At Fraserburgh the number of boats on Saturday were 300, a thing never known before. We ourselves paid up to Saturday night, I think, something like 2,300l. or 2,400l. for fish and wages for the month of June, and last year we only paid about 125l. The same weather that suits the land suits the herrings, it matures them in the same way.

5742. The temperature of the water being higher, I suppose, is the reason of it?—Yes; the temperature of the water is higher, that is the reason of it; then again the strong point with us is this, if we have an over-abundance of large fish, the value falls to almost the same price as the smaller ones; the price of the smaller ones rises, and they get pretty well balanced. There is a complete demand for all we can catch, if we can only get sufficient markets. As far as what we are catching now is concerned we can sell the whole of them.

5743. So that really and truly it is more to your advantage to catch the fish when they come to the east than it is on the west?—No; we do not catch the same class of herrings; the herrings we catch on the east coast vary; there are almost as many shoals as there are days in the year, and they work in and out the same as sheep to the Lowlands in winter and the Highlands in summer; they work in principally for spawning; herrings spawn twice yearly.

5744. You do not mean to say the same herring spawns twice a year, do you?—Yes.

5745. Has that been proved ever?—Yes; it was proved by Captain Macdonald of the fishery cutter; he got herrings the whole of the year for several years in the Scotch fishing cutter "Vigilant;" he took a great deal of interest in the matter, and he told me he had proved it.

5746. How?—He had caught herrings off the same ground; you can catch herrings if you only sink your nets deep enough in the same ground all the year round.

5747. But I want to know how you can prove that the same herring spawns twice in a year; I want you to substantiate that statement?—We have herrings spawning in July, and on the same fishing ground we have herrings spawning again in January.

5748. I am ready to admit that, but I want you to prove the statement that it is the same fish that spawns twice, because that is against all nature, surely, is it not; do you know of any other fish that spawns twice in the year?—I do not know any other fish, but I know that rabbits breed pretty well every month.

Sir Albert Rollit.

5749. But at any rate it is exceptional in the case of fish, is it not?—I believe it is so with fish, and I believe there are other kinds of fish which spawn twice yearly.

5750. Is that determined at all by the temperature?—Temperature has something to do with it, but herrings generally go into a temperature of 56 to spawn. Then with regard to small herrings, some people complain that we get

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get many small herrings; but there is a market for them. In Germany a great many of the small herrings are sent to Austria for sardines after they are headed.

Chairman.

5751. Would you then prohibit, absolutely, any close time for herrings?—It is impossible to have a close time for herrings without injuring our fishermen; for this reason: If you have a close time in Scotland, the Dutch and the French will fish, and they will fill the markets we now supply. The only thing we are suffering from in Scotland is a scarcity of markets; as far as herrings are concerned, we could supply the whole world; we have plenty of herrings, plenty of fishermen, and plenty of boats, and if you, in any way, limit our markets, which you would do by allowing other people to fill them, you would deliver a blow to the Scotch herring fishery from which it would never recover.

5752. What you have told us is, that the fishermen in Lewis, by their own action, have established a close time, which they enforce by their own means?—Exactly.

5753. My point is this: would you, by law, prevent any such self-constituted close time being enforced, or proposed by the fishermen?—I think the law is quite strong enough to stop that, but in this case I think they are so disgusted with the results, that they will not try to enforce it again, as far as Stornoway is concerned.

5754. Then you have not come here to ask this Committee to make any recommendations on the subject of a close time for herrings?—I have come here expressly to ask the Committee not to make any recommendations on the question of close time, as it would be a serious injury to the Scotch fishermen; and I gave you the case of Stornoway as a proof, where 70,000*l.* has been lost in six weeks. You can perhaps understand it better, when I tell you that Lewis, being an island, they have to get the fish away by steamers, which is a very expensive process. The steamers are engaged only 42 days, and out of that 42 days we have 12 days that the fishermen do not fish, that is Saturday nights and Sunday nights; we never fish on those days. Then you may say there is an average of five bad days during the season, so that Stornoway, by the limitation made, is practically reduced to 25 days' fishing.

Sir Albert Rollit.

5755. Are there any saints' days on which you do not fish in Scotland?—No, they generally arrange to have the fast days in Scotland at times when they will not clash with business except at Stornoway. Another difficulty is this, that herrings mature on different parts of the coast at different times. For instance, the Fraserburgh and Peterhead fishings begin before the Aberdeen fishing. It might be an advantage to the Aberdeen fishermen to prevent the fishermen at Fraserburgh from fishing before they did, and the men at Montrose might wish the Aberdeen men not to begin before them, and so away on to Berwick, Sunderland, Whitby, Scarborough, Yarmouth, and Lowestoft, and so on, all round the coast.

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Chairman.

5756. As I understand, your view would be that no restrictions whatever should be placed on the capture of herrings at all?—No restriction whatever.

5757. Would you make any restriction with regard to the size of mesh?—That is now guided by the market; the herrings now are sold by auction, and they bring their value. The better the herring the more money they make, and the fishermen, themselves, of Scotland, are seeing the folly of fishing with small mesh nets.

5758. Then you do not think that any catching of herrings, whatever their size might be, would be any injury to the fishery?—You cannot injure the herring fishery by catching.

5759. From your large experience, would you say it is impossible to materially diminish the stock of herrings by anything that man can do to it?—I think it is impossible.

5760. Therefore, do you think it is much better to let man catch what he can and make the best profit he can in his own way?—Yes. You cannot have a better instance to see how it works than this: At Fraserburgh we very seldom catch any herrings before the end of June. Now this year many thousands of pounds have been paid to the fishermen for what they have caught this month. Those herring are useless to cure for the Continent, but they have been bought to make into kippers and sent away in a semi-fresh state. They have been of material advantage to those fishermen who failed on the west coast and have come there and made money. So in that case if you had a close time you would have affected these men very much.

5761. The only ground on which a close time could be recommended would be if there was a falling off in the fisheries and it was necessary to replenish the stock, would it not?—Yes, but that has never been known, besides which a close time would mean this: In the case of the Dutchmen, they were never known to fish off Stornoway until this year, they compete with the same merchants who buy the Scotch herrings in Hamburg for the same markets. When the Frenchmen catch more herrings than they consume in France, they also ship to Germany, and compete with Scotland. Then we have the Norwegian fishermen who get large shoals in the Autumn up the fiords, and they also fill the German markets. We have any quantity of competition, we are not afraid of competition, but we are very much afraid of any attempt at legislation. For instance, at Fraserburgh, taking 20 years back, we seldom got more than a third of the total catch in July. We never thought of beginning really to fish until about the 13th of July, although many boats started and caught a few. Now if you take the last three years, in 1891 it blew a gale nearly all July, and we were only fishing practically for about 10 days, but we caught a third of the total catch in July. Moreover, for the last eight or nine years, the quality of the herrings caught at the end of the season during September (the season used to last, say, from the 20th July to the 20th September) has been so bad that the fishing practically finishes at the end of August. Now in 1884, the heaviest year

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I think we have ever had except 1892, the best herrings caught during the whole season were caught during the first week in July. Last year our catch in July was 122,000 crans against 233,000 crans total for the whole season. In 1873, it was 36,282 crans for the month of July, as against 135,000 crans for the season; the seasons vary so much. In 1891, it blew a gale nearly the whole of the month of July and the best part of August, but we still caught 55,794 crans out of a total catch of 150,558 crans. In Fraserburgh, they depend entirely on the herring fishing. It is without doubt the capital of the herring fishing. We land in Fraserburgh about 60,000 tons of herrings in less than 10 weeks. I believe Grimsby which is the largest trawling fishing station in England, lands in the 12 months 80,000 tons of fish, so that you see what an enormous fishing trade we have. We land as many herrings at Fraserburgh during eight weeks, as they do at Lowestoft and Yarmouth put together, where the fishing generally lasts about four months.

5762. Then you want to be left alone as I understand?—Yes.

5763. Can you speak at all with regard to any other fisheries on the Scotch or English coasts?—Yes, I have been connected with them on the English and Irish coasts for 25 years.

5764. Would you be inclined to agree with the general drift of evidence which has been given to us, that there has been a distinct falling off in the quantity of flat fish caught in the North Sea?—In the quantity of prime fish, there has been a falling off.

5765. Are you prepared to give us any information as to what you believe the reason of it to be?—I believe that it has been through over-fishing, and catching the small fish; they have been landing fish that really ought not to have been landed, and they ought not to have been able to sell many thousands of tons of fish they have sold. My opinion is that if you prevented the landing and sale of immature flat fish, you would get at the root of the whole matter, and it would not pay the fishermen who are interested in the matter to go and catch them; in many cases they do absolutely know before they go to a certain breeding ground, that they will get a certain class of fish on that ground, and if they know they have no power to land and sell those fish they will not bring them ashore; but I do not think for one moment that the shrimp boats do any damage, they haul their nets so frequently, and they get so few, and clean their shrimps so rapidly, that I firmly believe the shrimp boats do no damage at all.

5766. Would your view be merely to apply the restriction to the big trawlers?—The restriction should be general to everyone, viz.: That no one should land a fish under a certain gauge. You could not very well say to one section of fishermen, "you shall not land a fish of a certain size," and to another section, "you shall land fish of another size"; you can only say that fish of a certain size are not saleable, and if you said that, you would not be troubled with them very much; there are thousands of tons sold for manure which is a great waste.

5767. Have you formed any opinion as to the

Chairman—continued.

limit of size?—I think you should take the different sizes, and try and strike an average; I think eight inches should be the smallest size for sole, and the very smallest for plaice, nine inches.

5768. Would you be inclined very nearly to adopt the French and Belgian sizes?—They are very small, but I think if they were once adopted it might act in the same manner as the Lobster and Crab Act; fishermen have been so satisfied with the good results from that Act, that they have voluntarily desired, as I understand, that the size should be increased.

5769. The evidence given before this Committee, rather seems to point to this, that if a very small size is fixed, then the institution of such a small size would not keep the fishermen off these grounds where the small fish are principally found, because they would be able to catch a considerable number of fish that are just above the size?—There is a great deal of force in that, if you made the size too small, they would do exactly as you say, and you would not get the benefit you anticipate.

5770. If you take what we may call the scientific size of maturity as your basis, still it would be inflicting a very great hardship on the smaller fishermen along the shore, would it not?—Yes, it would be a great punishment to many of them.

5771. And destroy the livelihood of a considerable class, would it not?—Yes, there is no doubt it would be a great injury to them; I take it the whole view is to benefit the fishermen, not to injure them, and if you strike an average, I think you could get pretty near what they wanted.

5772. I take it you think something approaching the foreign limit would be the thing, do you not?—Yes, something about that; I think the foreigners would have no objection to raising their limit slightly.

5773. Would you advocate any size limit for round fish, such as haddock and cod?—No, I do not think you could do anything with those.

5774. But you would confine it merely to the better class of flat fish, soles, plaice, turbot, and brill?—I think it is only flat fish you should interfere with; cod, haddock, ling, and so on; there is no doubt we can land thousands of, if we could only sell them; the waters of the west coast of Scotland are teeming with them; you can load a boat off the Island of Iona in an hour, but it does not pay to catch them, the railway carriage is so very heavy.

5775. Is there any other point you wish to bring before us?—Nothing; I am principally interested in Fraserburgh and the herring fishery, and as I know you have had a great deal of evidence as to trawl fishing, I do not wish to go into that. I do not know whether you are aware of it, but the mackerel fishing is dying out.

5776. Let us hear what you have to say about that?—I do not know whether it should be legislated for, but it is dying out on the south and west coasts of Ireland. Mackerel, like salmon, are easily killed; the mere striking of a net will kill a mackerel. In America they used to use balloon nets, and they for many years caught an average of 500,000 barrels until they have reduced it to 30,000 barrels; they have fished it right up, and now they have to catch their mackerel on the Newfoundland coast they are

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are getting very few; and we are rapidly fishing them up in Ireland, where they complain that it is caused by something by which the National Sea Fisheries Protection Association tried in order to benefit them. Father Davis applied to the National Sea Fisheries Protection Association just in the same way as the Government applied to them about the loss of life in the North Sea, asking them if they could suggest anything to benefit the Irish fishermen, and I proposed that they should split their mackerel caught in the autumn to the American market, where there is a good market, and where they could make a very good price. The Irish fishermen went into it, and derived a great deal of benefit from the fishing of mackerel on the south and west of Ireland, where they catch a great many in the autumn months. But they are afraid the amount they are catching in the autumn is diminishing the supply so greatly that they are suffering injury in their spring fishing. It is the fact that wherever mackerel are steadily fished year by year, you fish them up. Taking almost any station you like they diminish. For a time they diminish, but then, if left alone, they increase again, and I think it is worth while making a note of that fact as to the mackerel.

5777. What would you suggest; would you suggest legislation with regard to the catching of mackerel, or would you suggest giving powers to Irish Fishery Inspectors to deal with the matter?—Many of the Irish fishermen depend on what they catch in the autumn for their living, and it would be a great hardship if you took their living away. It is difficult to know what to suggest to benefit them. There is not the slightest doubt if they caught no mackerel in the spring, though it would be a serious loss to a great many, or caught none in the autumn, the fishing would be benefited because the supply of mackerel is limited.

Sir Albert Rollit.

5778. Will you state what authority you have for saying that herrings spawn more than once a year; have you any scientific authority for it?—I have had herrings on the same ground nearly every month during a whole twelvemonth. I have had them caught off the east coast for nearly twelve months all round, and my experience is that I have found spawn in them in the months of January and February.

5779. Is not that consistent with the truth, namely, that they spawn at different times. Have you any further authority for what is a surprising statement, that they spawn twice a year?—I have found on the west coast a similar class of herrings to what we catch in the summer spawning in December down in Loch Seaforth.

5780. Have you any scientific authority for that statement?—I have only my own personal observation.

5781. You say there are different shoals of herrings; do you mean a difference of size or character?—Different character; it all depends on their food. For instance, if you take an Irish herring you find that is a short thick herring, the same as those caught off the Isle of Man; but if you take a Loch Fyne herring, that is a deep broad-backed herring; if you take a Shet-

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Sir Albert Rollit—continued.

land herring, it is a much larger and coarser fish than you get at Stornaway.

5782. Is that a question of feeding ground?—Yes, I think so. For instance, the herring at Loch Fyne eats much better than an east coast herring. If you take a herring off Aberdeen or off Peterhead the back is much thicker than the herring you catch off Grimsby, Scarborough, or North Sunderland.

5783. Do you know the large haddock they are catching in the north?—They are fishing for those off the Faroe Islands.

5784. Is there any distinction between those large haddock and the ordinary haddock, or is it merely a question of size?—It is a question of the ground being perfectly new; if you fish on a new ground for flat fish you get very large flat fish.

5785. I asked a witness the other day whether you do not find those large haddock equally in Dublin Bay, do you know whether that is so or not?—I do not know; but you get enormous soles off the coast of Galway, and all down the west side of Ireland, the largest soles I ever saw in my life.

5786. You say you do not recommend any check being placed on the herring fishery; is that view based on the exceptional fecundity of the herring?—Yes.

5787. We have had some reference to Father Davis's work at Baltimore; is there anything done in the north of Scotland on the lines introduced by him at Baltimore as to teaching the fisherman?—No, it is not necessary. They are fishermen from their childhood.

5788. I am alluding particularly to improved methods of net making by machinery and so on, and curing?—The net making is entirely in the hands of private manufacturers, who vie with one another to produce the best article at the lowest price, which is better than any fisherman can do.

5789. Is that a local industry?—No, it is spread over several places.

5790. Are they all machine-made nets?—Yes.

5791. Has there been any teaching of a system of curing as at Baltimore in Scotland?—The only system we know of in Scotland is curing and preserving generally.

5792. Do you know, as a matter of fact, that owing to defective curing the Irish lost the American market for a long time?—Yes, of the mackerel.

5793. And regained it by the teaching of Father Davis at Baltimore?—Yes; he carried out the original instructions of the National Sea Fisheries Protection Association.

5794. Is there any need for similar teaching of curing in Scotland?—I do not think you can teach us much.

5795. Do you think there would be no good arising from that?—No.

5796. Improved processes develop very quickly sometimes, do they not?—We do 10,000 tins an hour when we are working, and we say no one can do the same quantity; we think you cannot teach us much there.

5797. Is there not a good system used in Norway?—No country cures herrings better than

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Sir *Albert Rollit*—continued.

than Scotland, and I doubt if any country cures them as well. The Dutchmen have a slight advantage in curing them on board, as they are able to knife them perhaps an hour or two sooner than we are; but at Fraserburgh we frequently get the herrings at 6 o'clock in the morning, when the nets have not been up more than a couple of hours; the fish are practically alive, and when they are knifed they bleed freely.

5798. Do you think that all that is required in those directions exists in Scotland in the experience of the people?—If you could help us to new markets we should be glad.

5799. Could markets be opened up?—Yes.

5800. In what directions do you suggest that should be done?—I am afraid I shall touch on a question that is not before this Committee, but I may say this, that owing to circumstances over which this Committee has no control, we are only able to send 3 per cent. of the total catch at Fraserburgh to England; it all has to go to Germany.

5801. Is that a question of land carriage?—Yes.

5802. You are an active member of the Sea Fisheries Association, are you not?—Yes; I was the founder of it.

5803. Do you approve of the proposal that has come from that association, that the landing and sale of undersized fish should be prohibited?—I do.

5804. Would your test of undersized fish be that of maturity or of mere dimensions?—One man might say a flat fish had matured and another not, and I think you must depend on length; for instance, you get soles on some of the coasts thoroughly well fed, and thick; then, off the island of Iona, you get plaice so white and so thick that, when filleted and fried, you would frequently prefer them to soles.

5805. Then, would you prefer a size limit to a mere biological limit?—Yes; then it is always understood.

5806. Do you think that these fishing grounds, where the small fish are found, are so well known that there would be no difficulty in making closed areas of them indirectly in that way?—There is no doubt the fishermen know the grounds, but if you attempt to close an area by saying, "There is a defined area; you shall not fish on it," there would be difficulty. If a man cannot land he will not fish.

Mr. *Harry Foster*.

5807. What is your objection to a defined area?—You will find it is a very arduous thing to keep boats off a certain area; and if they think the things can be landed they will do exactly like what was done when there was a close time enforced in the Kyles of Bute many years ago. Our west coast fishermen seemed to glory in the fact that there was a close time, and you could not stop them, and the more the risk the more they worked. After that close time was removed things settled down to a proper condition again.

Sir *Albert Rollit*.

5808. One other question, about the deficiency of mackerel; have you paid any attention to the question of hatching?—Yes, slightly.

Sir *Albert Rollit*—continued.

5809. Have you ever heard of mackerel being so dealt with?—I believe they can hatch mackerel as well as they can hatch anything else.

5810. It is a very tender fish, is it not?—Very tender.

5811. But you think there would be no difficulty about that, do you?—I believe it would be an advantage if they did try it, for I think they could replenish them to a considerable extent.

5812. Have you ever heard of any hatching of mackerel at all?—I have never hatched any myself.

5813. It is in many ways, is it not, especially as to tenderness, a very exceptional fish?—It is the most tender fish we have in the sea, I think.

5814. But you still think the hatching process could be applied to mackerel with advantage, do you?—I think so.

5815. Would there be any advantage in teaching, with regard to that class of fish, in districts where it is caught; for instance, as at Baltimore?—In Ireland it might benefit the Irishmen in places where they have not learnt the methods of curing for the American market; it would be of considerable advantage if the Irish inspector of fisheries sent some practical men round to show the people how to do it; it requires very great care.

5816. In that way, undoubtedly, new markets can be found, and markets which have been lost re-opened to trade, I suppose?—I do not think you can say that the Irish people have lost the market.

5817. But they did lose it, did they not?—They spoiled their goods.

5818. And the result was, that they lost the market for a considerable time, but regained it by the introduction of new methods, was it not?—Yes. I know the south and west of Ireland well.

5819. Do you think, then, that such means would be useful?—Yes; it would benefit the Irish fishermen very much, but, as far as Scotland is concerned, I do not think it would do any good whatever.

5820. Do you notice a very great difference between Galway and Baltimore in the ability of the fishermen?—I think the fishermen all over Ireland are very much like the Celtic races; they want stirring up a good deal, but when they really begin to feel the benefit of handling money they wake up.

5821. And what has been done at Baltimore I suppose may be done at Galway and other places, may it not?—Yes.

5822. But you know that Galway has been behind Baltimore; do you not?—Baltimore has had Kinsale near it, and they have had English and Scotch fishermen at Kinsale, who have inspired them to a considerable extent with a spirit of rivalry, and they have worked a great deal more. Some of the boats in Ireland are as fine, and the crews as good, as you can get anywhere; they are very good fishermen and seamen, but poor in numbers.

5823. Do you attribute that poorness of the fishery at all to the heavy seas from the Atlantic?—No; we have just as heavy seas on the west coast of Scotland.

5824. Do you attribute it to the want of good harbours?

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[Continued.]

Sir Albert Rollit—continued.

harbours?—They have better natural harbours on the west coast of Ireland than most places.

5825. But they are difficult harbours to make, and badly lighted, are they not?—They are not very well lighted, and they might be improved in that respect.

5826. For instance, what harbour could you run for between Galway and Lough Foyle?—You can run for the Shannon and further south.

5827. Going north from Galway, what harbour is there?—I do not know much further north than Tralee.

Mr. Renshaw.

5828. The evidence that you gave in regard to the landing of immature under-sized fish applies, I suppose, only to the North Sea; or do you apply it to the whole of the United Kingdom?—It would have to apply to the whole of the United Kingdom; because, with any immature fish, or what was deemed immature fish, brought into market, it would be difficult to find where it came from. For instance, a boat fishing in the North Sea might land the fish in Scotland, and in different parts; but I am of opinion that the question of the immature fish in the North Sea, and the question of the shrimp fishermen at different parts of the coast, is, one, a national question, and the other purely local, and they ought to be separated.

Colonel Cotton-Jodrell.

5829. Is flat-fishing a national question?—I should say the North Sea question is a large and national question.

Mr. Renshaw.

5830. Are you aware that evidence has been given to the Committee suggesting that, if a size was fixed, it should be smaller for the south coast than for the east coast?—I understand there is a considerable difference of opinion about the size; some people wishing for a larger, and some wishing for a smaller size.

5831. Do you think it would be possible to fix different limits?—No; you will have to have one limit for the whole of the United Kingdom.

5832. Do you think there would be any great objection to that in Scotland, so far as your acquaintance with the fishing is concerned?—We have no big trawling industry except at Aberdeen where there is a very large industry, and I think about 80 steam trawlers; but that would not affect them. I should say, as far as they are concerned, it is to their advantage to get good fish.

Colonel Cotton-Jodrell.

5833. The argument about different sized fish was rather, was it not, that on certain waters on the south and west coasts, the fish get much fatter, and develop more quickly than in the North Sea?—I dare say it would be so; the temperature would be higher.

5834. And they were really more fit for food at a smaller size?—I think the size that should be fixed should not hurt them; I think the size that would benefit the whole should not hurt the south and west of England people. It would be almost impossible to legislate for certain sizes for certain districts; you would have to have one size so far as flat fish are concerned.

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Commander Bethell.

5835. Do I understand that you are familiar with the herring fishery along the coast of England as well as the coast of Scotland?—Yes; at Yarmouth, Lowestoft, Grimsby, and Scarborough.

5836. Do the herrings come down with great regularity every year in the autumn, along the Yorkshire coast?—They work in and out; they do not work downwards much.

5837. A school of herring does not work down the coast, you think?—I do not think so, because you will have boats fishing 100 miles apart, and if you examine the herrings landed at two stations you will find they are entirely distinct in appearance.

5838. Then do you think the herrings caught off the Yorkshire coast have not, as is often supposed, come down from Scotland?—We do not think so.

5839. Where do you think they come from, the deep water?—They go into the deep water after spawning. The day after a herring has spawned they swim on the top of the water, and as you are no doubt aware, swim very rapidly, and seek deep water.

5840. Then in the autumn, when they come off our coasts, I suppose they are returning again?—They are working into shallow water again to spawn.

5841. They are usually caught in the autumn, are they not?—Yes; at Scarborough the fishing begins in August, and lasts until the beginning of October.

5842. The herring fishery is earlier off the coast of Northumberland and the north coast of Yorkshire than it is at Scarborough, is it not?—Yes. But still the fishing at Grimsby, Scarborough, Whitby, Filey, Shields, North Sunderland, Berwick, Eyemouth, Montrose, Aberdeen, Peterhead, Fraserburgh, and Wick, are all on at the same time, during August, every one, and if you take a herring from each station you will see a distinct difference in the herring.

5843. I have been told by local men that the herring fishery is not so good off the Yorkshire coasts as it used to be?—Prices have been bad for some years, and they have not pushed it so much, probably that is the reason; but there has been no deficiency in the supply.

5844. I have also been told that the advent of the herrings has become much more irregular than used to be the case?—Yes, very much more irregular; they come in some times much sooner than they used to.

5845. Can you account for it?—You cannot account for it. Herrings left Sweden once, for 200 years no one caught any, but they came back in larger shoals than was ever known.

5846. How far round the coast do you find the herrings?—They get some off Cornwall, and some in Cardigan Bay; but they are different in their general features; they vary all round the coast.

5847. Is the mode of taking herrings the same all round the coast?—Yes, with drift-nets, except in Ayrshire, in winter time, where they used to have stake nets and seine trawls.

5848. Are the herring boats mostly sailing boats or partly sailing and partly steam boats?—We have a few steamers. We have a few small

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steamers

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Commander *Bethell*—continued.

steamers belonging to Granton which are used in the winter.

5849. There is no good in a steamer for drift fishing, is there?—No, because in Scotland we want to keep the herrings as cool as possible; and we think however you pack the boiler it increases the temperature of boats, and Scotch fishermen have a strong objection to steam engines. In Scotland they are very proud of their boats; they are very fine boats and sail like yachts. They spread an enormous stretch of canvas, and I do not think the men will take to steam at all.

5850. Unless there is more money to be made?—They cannot do any better with steam. If there was any more money to be made, they would be there, no doubt.

Mr. *Buchanan*.

5851. The principal thing you wish to urge on the Committee, I understand, is your view about the close time for herrings?—Yes.

5852. Are you strongly opposed to any legislative action in that direction?—Yes, very strongly, for this reason: At Fraserburgh, the metropolis of the herring trade there is a nominal population of 6,000 or 7,000; I knew it with 4,000. They have borrowed there something like 250,000*l.* to complete their harbours, and have altogether spent probably about 350,000*l.* To-day their indebtedness is only 100,000*l.*, and they have paid that money off, simply by being able to have large fishing fleets and being successful in that way. If there was any limitation in the catching of herrings it would seriously injure the town, and wipe the town out as a fishing station, as any shortcoming from Scotland would be more than filled by other countries. No doubt if there are any shortcomings from Scotland, it would compel or go a long way, to make the Germans initiate a big fishing fleet of their own from Bremen. In fact, they have begun trawling, and would no doubt go in for herrings too, and cure on board.

5853. Are the two reasons generally on which you would be opposed to it, that it would not be observed because foreigners would come in, and secondly that the seasons vary from year to year?—Yes. Last year we got in July 122,089 crans, while for the whole fishing we had only 233,744 crans, that is more than half. In 1891, with only about eight or 10 days' fishing, we got 55,794 crans in July, and 150,558 crans for the whole season. In 1890 we had 110,543 crans in July, and 196,914 crans for the whole season. So that in 1890 and 1892 which are fairly representative of the fishings we have been having recently, we got more than half the total catch during July.

5854. Do you think your opinion represents also the opinion of the bulk of the people engaged in the herring fishery in the north-east of Scotland?—I am of opinion that my opinion represents that of the bulk of the fishermen and people engaged in Scotland. Any fisherman who had any lingering doubt on the question of a close-time, had it fully dispelled at Stornoway this year. Their averaged earnings last year would be probably 100*l.* a boat, this year they are probably 30*l.* or less.

Mr. *Buchanan*—continued.

5855. Do you think that would apply to all the people engaged in the trade, not merely the curers, but the fishermen too?—Yes, it applies to everyone.

5856. Have you anything to say about the development of the fresh herring trade?—That brings up the rates question. I would say this that there is no article of food, no article of commerce carried by any railway company which is so heavily taxed as the herring, and figures can be produced to prove it. In many cases the rate as compared with articles of similar value is about three times as much. For instance, I know one station where they carry an article worth 16*l.* a ton for 7*s.* 6*d.* a ton station to station, and herrings worth 5*l.* a ton they charge 20*s.* for.

Commander *Bethell*.

5857. Is that true for a long journey, say from the north of Scotland down here?—Yes, it is a very serious question for us in Scotland, and we feel it deeply.

Mr. *Buchanan*.

5858. The result is this, is it not, that practically although there is a large supply of fresh herrings which might be sent to the markets in the south of Scotland and England, practically there are very few sent?—I say this, that the managers of the English railway companies are totally unaware of the immense loss of revenue they suffer through the present policy as carried out by them. When you take the total catch at Fraserburgh at say 60,000 tons and the total carried by rail is only 3 per cent., you can draw your own deductions.

5859. The only other question on that subject I wish to ask is this; is that also a great difficulty in the way of the development of the west coast fishery such as you mentioned about Iona?—The rates are simply ruinous as far as dealing with England is concerned, they are practically prohibitive.

5860. Practically prohibitive for the export of fresh fish on any large scale?—Yes, we cannot do it. Many stations are now closed which used to be working years ago; they cannot compete with Norway in the winter time.

Mr. *Harry Foster*.

5861. I understood you to say in reply to Sir Albert Rollit, that you are in favour of the resolutions of the Association as to limiting the landing and sale of undersized flat fish on those figures which we have had before us?—Yes.

5862. Then I understood you to say you rather preferred a fixed limit to size, than to take into consideration the question of the maturity of the fish?—The question of maturity is purely a scientific one, and if you are going to study it from a scientific point of view, you will have to engage a great many scientists at every fishing station, to decide on whether this fish is a matured fish or that is not. One man may hold that a sole or flat fish full of spawn is matured; another man may say that is a foul fish, it is full of spawn; it is not fit to eat, and I should agree with him. When a fish of any kind is full of spawn and near spawning, it is not in a good condition for eating.

5863. Do

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Chairman.

5863. Do you say that of a herring?—Herrings are never in good condition when crammed full of spawn, but they mature so quickly; to-day it will be all right, and to-morrow sick and lying at the bottom. When they are ready for spawning they sink down to the bottom of the sea and your nets go over them, and you cannot get them. You will perhaps get them a day before they go down to the bottom, and the spawn then frequently runs out in the boat, and they are not in a good condition at that time to eat.

Mr. Harry Foster.

5864. Did not I understand your objection on the question of maturity was, that on some parts of the coast they mature so much quicker than on others?—They may mature quicker in higher temperatures. Then in other places the feeding may be better, and the fish much thicker, and there is a considerable amount of reason in this. One man may say a fish of seven or eight inches on his particular ground is thick, well fed, and good food. But perhaps you may get a fish that size on another part of the coast which is not good food, very thin, and nothing on it.

5865. Does not that objection apply to your present recommendation?—The difficulty is in the market. If you are to make different sizes for different coasts, the question arises how such a regulation could be carried out. I say, do not fix the limit too high, and do not fix it too low; because if you do the men will still fish in grounds which you wish to preserve on the off chance of getting a quantity.

5866. Do you agree, supposing there were a limit, it must be the same limit all round?—Yes.

5867. And it would not be practicable unless it were so?—I do not think so.

5868. Do you also agree no limit should be fixed which would interfere with the landing and sale of edible fish?—I take it that the limit you should fix would be one which would benefit the fishermen. That is what we are all striving to do.

5869. In what way to benefit him?—You wish to benefit him by giving him an increased supply of more valuable kinds of fish, but you would not like to fix the limit at such a size as to injure the people on certain parts of the coast, where more frequently they get a good fish a little bit smaller.

5870. That is to say, the object of limitation is to increase the supply?—Exactly.

5871. Are you of opinion that we are at present suffering from the catching and landing of a large quantity of undersized fish?—Yes.

5872. Do you confine that to any particular area?—The people who catch the most are principally the Grimsby and Hull fishermen; they land more than any others.

5873. From where?—I understand they get the immature flat fish from the low lying grounds off Holland.

5874. The areas are fairly well defined, are they not, where you say the damage is done?—They know them perfectly. At Lowestoft there are very few small fish landed.

5875. Should you say any real harm is done by the drifters or shrimpers along our own coast?—I do not think a shrimp does any harm what-
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Mr. Harry Foster—continued.

ever, and the drifters, of course, could not do any harm, because they do not get on the bottom.

5876. As to any legislation for prohibiting the landing and sale of fish below a certain size, would you recommend that that should be done, whether by international agreement or not?—Yes, by international agreement, if possible.

5877. Whether the foreign nations would join us or not?—Yes.

5878. Then how would you prevent foreign trawlers going over these same grounds?—I understand that they have not the demand in Holland and Belgium for these small fish that there is on this side, and that they cannot sell them so readily; therefore they would naturally catch what paid them best.

5879. Do you think the effect of such legislation would be to keep the trawlers off these defined areas?—It is natural to think that fishermen would hardly take the trouble and expense to go on grounds to catch fish that they could not land or sell.

5880. Then what would you have them do?—There are grounds which have never been fished at all yet.

5881. Do you say there are other grounds where they could go and earn a living?—There is no doubt about it.

5882. Would not the same thing happen on those other grounds as is happening now?—If they were not allowed to land the small fish they would throw them overboard, and in many cases they would be alive.

5883. Do you know in how many cases they would be alive on a steam trawler?—It all depends on the length of the time a trawler has the net down. You might take it for granted that all the small fish which got into his net in the early part of the time the net was down would be dead. All those caught within a reasonable time of raising the nets would be alive.

5884. Do you know the evidence we have had is that 80 per cent., at least, of the fish are dead?—I thought about 50 per cent. I have not heard the evidence, but still, 20 per cent. of any kind of flat fish is a very good amount to get overboard, because they recoup pretty quickly.

5885. Of course, if they were not allowed to land and sell them, they would have to throw them overboard, dead or alive; they could not keep them out of their nets, could they, by any legislation?—I do not think if you legislate for a very large mesh it would keep the fish out, because when the net is drawn tight all the strings come together, and the fish could not get through.

5886. So that the little fish would still get into the nets, would they not, and a large percentage of them be killed?—No doubt.

5887. And instead of being landed and producing something they would be thrown back into the sea, would they not?—Yes.

5888. Do you know that we have also had evidence that that would be injurious to the fishing ground?—I have known in the case of herrings, where a number of stake nets have been left in the sea, owing to bad weather, the herrings have
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have shifted a couple of miles. They were still on the bank, but they were a mile and a half or two miles further south, they were driven off that particular section of the sea by the nets being left down.

5889. Of course, no good would be done, would it, by this limitation of size, unless the effect was to close these areas for a time at least?—That would close them.

5890. Does it not strike you that that is rather a clumsy way of getting at the closing of those areas?—No.

5891. And that if the areas are to be closed, it should be done by directly closing them?—No; it is a very serious thing to go into the question of closing any portion of the open sea, and if this country went into questions of closing any section of the open sea, it might militate against us in the future; it is a very serious question.

5892. If you go in for fishing?—Yes; or it may be raised on other questions.

5893. Do you mean to say that your reason for objecting to these closed areas is that other reasons might be raised beyond fishing?—That is one reason, and the other is that nothing can be so effective as to prevent a man landing and selling an article that is of no use except for manure, and there are thousands of tons of these small fish landed, that are practically of no use except for manure.

5894. What is your objection to closing these areas if it could be done by international agreement; I understand you first of all to say other difficulties might be raised?—There is not only the difficulty of being able to do it effectually, which is always very difficult at sea, but there is the difficulty of having the question once raised that this country has agreed to close a certain section of the open sea for certain purposes.

5895. Do you mean difficult on the ground of police?—I mean there is the difficulty of doing it effectually, without you had a number of smart cruisers, and then there is the difficulty that it may be brought up against us at any future time, in another part of the globe.

5896. The difficulty of supervision, is it?—That is one.

5897. And the international difficulty?—Yes.

5898. Does it not strike you the difficulty of supervision would be very much greater in prohibiting the landing and sale of fishes?—No; it is the simplest thing in the world. They must be sold by certain salesmen, and the inspector, at the place of landing, or at the market, would simply seize them, the same as they would seize a foul salmon.

5899. You say the inspectors at the selling stations would prevent them, do you?—Yes; such as at Grimsby, Hull, Lowestoft, and Billingsgate.

5900. Would you cast upon them the duty of inspecting each fish that was landed?—I may tell you, speaking from my own experience, that any man who has work to do of that kind would soon get used to it. For instance, if you are buying cod of a certain gauge, as we have had to do in the past, and you say your gauge is a certain size, anything under that size would have to go two for one, and so on. A man so quickly learns the

Mr. Harry Foster—continued.

business, that he can tell at a glance whether the fish are of the proper size or not.

5901. Still if a law were passed, and a fish was an eighth of an inch under the size, it would be a breach of the law, would it not?—Yes; but I do not think the inspectors would split straws over it in that way.

5902. Could not you have this legislation, whether it is national or international?—If it is to be for the benefit of the English fishermen, which by the evidence I have heard at different times, it is, I should say, have it by all means. If it is not going to benefit the English fishermen, it is no use having it. It is purely from the point of view of the fishermen, whether it is to their benefit or not to have it, and the practical men I have heard speaking for many years past, all say they think it is to be to the advantage of the trade at large.

Major Jones.

5903. What is the cost of transporting herrings from Fraserburgh to Glasgow per ton?—About 20s.

5904. What is the distance?—One hundred and eighty miles.

5905. Do you happen to know what would be the freight per ton on the same herrings from Glasgow to New York?—Yes, 8s. 6d., and to Australia by steamers, 17s.

5906. What would it be to the German ports?—Seven shillings and sixpence to 9s.

5907. What would be the freight per ton from Fraserburgh to London?—Per goods train, 55s.; that includes collection and delivery. Per passenger in three ton lots it is 60s., which does not include collection and delivery. For three ton lots it is 60s., and 75s. for less than three ton lots.

Dr. Clark.

5908. Do you know what is the carriage of the salt which you cure them with?—I think, 4s. 6d. this season; but it is hardly a fair criterion to compare water traffic with rail, because it is a very different thing altogether; but, in speaking of rates, we feel it from this point of view, that the railway companies could have full train loads to carry instead of having partial loads; that is to say, the expense of hauling a train load of fish is no more than hauling a train load of half empty trucks.

5909. The same as a corn train from the west to New York?—Yes.

5910. One train going right through?—Yes. You see with the 30-ton cars from Chicago to New York you have a very big train load; but our trucks are smaller.

5911. Do you think the reason why the fishermen are desirous of having a close time, is because it will permit them to attend to their crofts; is that your idea?—Yes, at Stornaway.

5912. But a great number of the fishermen are not crofters at all, are they?—No; and it is the greatest mistake they ever made in their lives to try and attend to the land as well as the fishing.

5913. Then the crofter fishermen are a small section, are they?—No, not in Lewis.

5914. Do you mean to tell me that the crofter fishermen in Lewis are more than cotters?—

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Nearly every fisherman you can meet in Lewis has a piece of land. I have been there since 1875, and I have never met a fisherman who has not a piece of land.

5915. Are you aware that there are 1,200 cotters who have no land there at all?—No, I am not. I have driven all over it, and they all seem to have land. I have never gone and asked them, but they all seemed to me, wherever I went, to have a small bit of land, I do not say much, but a little.

5916. Do you mean they may have a rood, or a quarter of an acre?—Yes, just a small piece, I am not speaking of a big lot.

5917. But they depend upon fishing, do they not, all the same, and there are only a very few who depend on the land?—They may depend upon fishing, but they do not work at it.

5918. Do you suggest that some of the east coast fishermen and the fishermen of the Isles of Orkney and Shetland, also desire a close time?—Not that I am aware of. I have met a few solitary cases, during the last year or two, of fishermen who thought it might be an advantage to have a close time; but they did not understand it; but a close time at Stornoway, this year, has cost the fishermen not less than 50,000*l.*; the town of Stornoway not less than 10,000*l.* to 12,000*l.* in loss of wages, and I should think 8,000*l.* in freight, and coopers' wages besides. I used to go out with a tug every night for many years from Stornoway, at 11 o'clock, and run down to the fleet between the Butt and North Rona. My experience was at the end of April and the beginning of May, we fished across between North Rona and the Butt; but as the season came on the shoals of fish would no doubt be broken up; they used to work down the Minch, and we fished until the end of June, until we were fishing off the Shiant.

5919. With regard to "matties;" are matties full grown fish?—Many are, I do not think you can call a mattie an undersized fish.

5920. With regard to the class of fish that the crown brand would be put on by the fishery officials, would they be a certain size?—Yes.

5921. Was it fish of that size you were getting, or smaller sized fish you were getting?—Every herring we got between the Butt and North Rona for length would have taken a full crown brand. They are all very large framed fish.

5922. Your contention is that this year, in consequence of the temperature being higher, the fish came earlier, is it not?—Yes.

5923. And then they went away north, I suppose, did they not?—No; they were working east and north-east up towards the Pentland Firth, and the west side of Orkney.

5924. Is that the reason why the Scrabster people are having a better harvest?—Yes.

5925. So you think the Stornoway people by having a close time have permitted the fish to get away north and east?—Yes, but that is not the whole of it; the Stornoway people will very quickly wipe out Stornoway altogether as a fishing station if they have a close time, because the time allowed for the fishing is so short, only about 25 days; therefore the people interested if they continue to have a close time will simply shift their quarters and fish over at Loch In-

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Dr. Clark—continued.

chard, and work from there, so that it will be a very serious loss to the Isle of Lewis.

5926. The fishing trade you think will disappear, do you?—No, they will simply take the East Coast fishermen to Loch Inchard, and up towards Cape Wrath, and not so near Stornoway. Probably, too, in a very short time there will be a line in that district. There are one or two lines, I understand, proposed, and if they get a line there they will be able to put the fish on the railway and not bother Stornoway at all.

5927. That is on the west coast of Sutherland, is it not?—Yes, so that you cannot control it. To show you how it affected them the fishing started on the 15th, and went on for 14 days; they caught a few fish to start with, but it fell off every day, and in less than three weeks from the start of the fishing the merchants who were paying, on an average, 2,000*l.* a week in wages, were cleared out of the place, and the whole thing shut up.

5928. This question of close time was one agreed amongst themselves, was it not?—The Lewis men desired it, and believed it to be for their benefit; they have managed to carry it out.

5929. And as to the other people, the Shetland people have also agreed to a close time, and the Wick men who have also agreed, do you think may have the same result with them?—No, the Scrabster men, or the Wick men were very good tempered over it, saying "we will agree to a close time," knowing the effect it would have; it is of advantage to them to have the Stornoway fishing put back, so that they can start at the same time, and they also know the later the Stornoway fishing is the more advantage it is to them. It is only for the last three or four seasons that they have had a fishing at Scrabster which they have never had before. The Scrabster and Orkney men say "Yes, we quite agree with the close time, it suits our book."

5930. And it is only the foolish Lewis men, you think, who suffer?—We are all liable to mistakes, but I am afraid the Lewis men have made a mistake which will injure them, and there is no doubt it will never be carried out again. It will never be carried out next year.

5931. Then do you want a new market for the fish, and do you want to get to the great markets of London upon terms which will make fishing possible or remunerative?—I say this, that we have enough fishermen in Scotland, we have enough boats and gear in Scotland to catch all the herrings that can be consumed throughout the world. We could supply even China and Japan, if we were allowed to.

5932. Why don't you do it?—Simply because we cannot work at the price. Just now we are handicapped in many respects; we think we ought to begin at home. We are not able to begin at home. We do not see why we should be forced to send our stuff thousands of miles if we have a market at our own doors, which we are entitled to work.

5933. Do you know anything about some of the Norwegian methods of curing, apart from salt with boracic acid?—Yes.

5934. They are people who send their herrings here

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here to compete with ours, are they not?—Yes. The herrings in Norway go up the fiords, and when they get up a certain distance the Norwegians have very large nets which they lay down. Then they have smaller nets, which they work inside these areas, and take the herrings out as they want them. Being on a sea-board they are able to send their herrings by water to either Newcastle, Hull, or London, at a freight say of about 2s. or 2s. 6d. per barrel at the outside, as compared with the Scotch fishermen's freight of no less than 7s. 6d. Then their fishing comes on in October and November, and that is a time when they do not clash with anything but the Yarmouth and Lowestoft fishing, which they have injured to a considerable extent; they have also completely closed the winter fishing in Scotland.

5935. But how do they bring their fish fresh here?—Many of them are brought entirely fresh in boxes simply, quite fresh, because it is cold weather. They have very cold weather in November and December, and they do not even have to salt them; some are salted, some are treated with boracic acid, but that has died out. Then you see their sea-freight is so little and that is where they get the advantage.

5936. Are you for maintaining the brand, or would you like it to be optional?—If you wish to place the Scotch curers in the hands of the German merchants to do as they like and compel them to consign their herrings, which I think would be the result, do away with the brand. If you

Dr. Clark—continued.

wish to keep the fishing up to what it is at present and perhaps develop it, keep the brand. The brand has had this effect since the agitation two or three years ago, the duties have been carried out more carefully; the brand has been exercised more rigorously, and the standard of cure is greater now than ever it was before. The Scotch curer now cannot be beaten, so much so that those people who, no doubt justly, complained of the gross carelessness that was exercised in the use of the brand, by branding anything and everything, which in many cases was done, have now been obliged to go back and use the brand, because the brand now is at a very high standard. If a German has a barrel of Crown fulls, Crown spents, or medium fulls, he knows now that he gets what he bought, whereas a few years ago he did not really get what he thought he was buying.

5937. Is your market improving in Germany under these conditions?—I think the market is about stationary. In Germany we can never sell more than a certain quantity; there is a limited consumption; there is only a certain amount of population, but the brand has done an immensity of good by reason of the good selection in Scotland.

Major Jones.

5938. You spoke of the freight from Norway as 2s. 6d., did you not?—Yes, against 7s. 6d.

5939. Per what?—Two and sixpence a barrel of 3 cwt., against 7s. 6d. for 2 cwt. from Scotland.

Mr. FREDERICK G. AFLALO, called in; and Examined.

Chairman.

5940. HAVE you taken a great deal of interest in this subject of sea fisheries?—Yes.

5941. You have been regularly attending the meetings of this Committee, have you not?—Yes.

5942. You were good enough to forward me some correspondence, which was printed as a paper for the information of the Committee, which took place between yourself and the Italian officials, and also the Director to the Marine Biological Institute of Heligoland?—Yes.

5943. I think you desire to say a few words with regard to the condition of the fisheries in the German waters round Heligoland, with which you are personally acquainted, do you not?—Yes.

5944. Will you tell us what you wish to say? It was chiefly with regard to the probable attitude of Germany in connection with international legislation.

5945. Have you been in the German trawlers in those waters?—Yes; and I have studied under German professors. One or two of your witnesses have said that legislation would be useless or abortive unless it were international, and I thought it might interest you to know that I think it extremely improbable that the German Government, or, at least, its scientific advisers, will take any part in such international legislation, more especially affecting the closing of areas, because they absolutely deny that the evidence given so far by scientists is adequate to

Chairman—continued.

warrant any legislation based upon it. They have all the evidence published by the Scotch Fishery Board, and take in very regularly journals from Plymouth and elsewhere, and they do not consider the evidence is sufficiently clear; it is too conflicting.

5946. Their idea would be that it has not been shown that the immature fish are confined to these particular waters, would it?—Quite so. They say it will always pay to go in and out of these grounds to select bigger fish, and get a price for them, and probably even let the smaller ones die on board.

5947. Can you express any opinion as to whether the Germans themselves would be willing to adopt a size limit with regard to the sale and landing of small fish?—I think they might follow if England were to set the example. I do not think they would take the lead, or probably even unite at first, but they would follow. But there would be, of course, the danger, if they did not, that English fishermen would, putting aside their jealousy of foreign fishermen, continue to catch these small fish and sell them at sea to the German men who would find a market for them abroad. I should also like to point out in connection with the statement which has been made here that there is no market abroad for these small fish, that at Hamburg it is very often difficult to get a flat fish over seven inches. If you go there and send for

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Mr. AFLALO.

[Continued.]

Chairman—continued.

for fish they bring you day after day these small fish. They would be principally plaice, and would have been taken, as has been stated here, on the eastern margin of the North Sea.

5948. Then would you say that at Hamburg, at any rate, there is a very ready market for these small fish?—Yes; a very ready market, and also at Kiel and the Baltic ports. They have a way of treating fish in the Baltic ports which, of course, only applies to the Baltic, because it is a tideless sea. They keep these small fish in captivity in boxes; they tether the boxes with gratings at each end in the mouths of the rivers, and take the fish out when they have grown and become marketable. They grow quickly, and they seem to find food even when left alone in captivity.

5949. What would a plaice of seven inches grow to after 10 weeks' captivity in a box?—I should be very pleased to get the exact sizes, because they must be well known in the Baltic ports. I was seven or eight months in Rostock, and it was the constant practice to catch these small fish and place them in boxes.

5950. Are the boxes something like the trunks they keep cod in at Grimsby?—Yes; and there is a grating at each end. I believe the hotel proprietors buy the boxes of fish before the season, and when the season comes round they are fit for the market. I have never come across that kind of thing anywhere but in Germany, and there only in the Baltic.

5951. What sort of size are these fish you have seen yourself when they are taken out of the trunks?—They would weigh about three-quarters of a pound; the size I would not like to say, so much depends on the thickness.

5952. Fish about 12 inches long, at any rate, and with a considerable amount of flesh on them?—Yes; one fish would be quite sufficient for breakfast, I suppose, but that would depend on the appetite, of course.

Commander Bethell.

5953. What you would expect to get, a fair size fish?—Yes.

Chairman.

5954. Do they feed these fish at all, or do they merely pick up what they can?—They simply tether them in the mouths of the rivers. The boxes are sunk and the fish feed and grow quickly.

5955. Can you tell me how many of these fish they put into one trunk?—I think about eight or ten. I may also state this as having a bearing on the question of the very conflicting evidence as to the number of trawl fish that may survive. In one sitting I was rather interested to hear two consecutive witnesses give 80 per cent. as the number that survive and the number that die. There is great conflict in such statements, but making due allowance for the fact that the Baltic has a very hard bed, and the hauls are short, I do not think I ever came across more than ten fish out of a hundred that were dead, and I think there is a very large margin therefore, even allowing for considerably more muddy bed, or a longer haul. It seems to me a very large margin.

5956. Would your view be that a very large proportion of the fish in a trawl net would

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Chairman—continued.

survive and could be kept alive?—Yes, I think so; especially, of course, on a hard bottom; it is where it is so muddy the fish get smothered. It seems to me, if I may make the suggestion, that one of the ways in which the Committee could deal with the matter would be to offer a prize or a premium for a device from any scientific institute or any practical fisherman that would keep the trawl open. I think Professor Mackintosh and Mr. Holt alluded to some experiments they had made, but they do not seem to have made experiments with any practical result.

5957. What is the length of the haul in the Baltic?—I do not think they haul more than three hours. I used to get four hauls in the day. I have been off nearly a hundred times, and I have been half-a-dozen times about the mouth of the Scheldt and not far off Heligoland.

5958. Have you any other suggestion to make in addition to those you have heard made to the Committee with regard to a close time, or closed areas, or a limit of size?—It seems to me the limit of size most desirable would be something as near as possible to the scientific limits of maturity, but then comes the question whether you want to protect the fisheries at the expense of the fishermen; and it seems perhaps rather hard to make a whole generation of fishermen suffer for some remote future benefit. With regard to the closing of areas outside the territorial limit, it would not seem to be very effective unless it were international, and as far as Germany is concerned, so far as I can see, there is slight hope of their co-operating; my correspondence would show that their scientific men are strongly opposed to it.

Dr. Clark.

5959. Are you aware that there is a large amount of fish sent all the way round from the Baltic, first to Switzerland, then on to the French and Italian Riviera during winter?—Yes.

5960. Where do those fish come from, do you know; are they bred artificially, or are they caught?—I fancy they are caught.

5961. But during the winter there can be no fishing in the Baltic, can there?—No; you are alluding to flat fish, I presume.

5962. Yes?—Of course you have herring fishing there all the winter. It does not freeze up to the margin of the Mecklenburg coast. They used to put the herring drift nets out as early as January.

5963. These fish are spoken of as coming from the Hamburg market, and I was wondering whether they were caught and kept and then sent away?—You mean in the boxes.

5964. Yes?—No, that is purely for local markets. You very rarely meet with sea fish in Germany a hundred miles from the coast. They get smoked flat fish or bloaters, but there is no other sea fish known, except that they eat a great quantity of weavers, what our own fishermen call sting fish, out of which the spikes have to be taken before exposing for sale.

Mr. Harry Foster.

5965. You mentioned something about the demand for these small fish, and therefore, if the English prevented them from being caught it would be tantamount to stopping fishing altogether?—No; I think there is a market abroad for them.

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5966. Would

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Mr. AFLALO.

[Continued.]

Mr. *Harry Foster*—continued.

5966. Would you also say the very existence of a supply would create a demand if people found they could get this food fish cheap?—To a certain extent, yes; the people there are very poor.

5967. If the English markets were to refuse all this material, do you think they would buy it up?—Yes, at a very low rate.

5968. Therefore, do you think it would not be safe to proceed on the lines of there being no

Mr. *Harry Foster*—continued,

demand for these small fish?—No, because I think the English fishermen would continue to catch them and sell them to the Germans.

Chairman.

5969. Will you favour the Committee with any information which you can obtain with regard to the keeping of flat fish that you mentioned?—Yes.

Thursday, 29th June 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Colonel Cotton-Jodrell.

Major Jones.
Mr. Marjoribanks.
Mr. Pinkerton.

MR. MARJORIBANKS IN THE CHAIR.

Mr. GEORGE LEEK, called in; and Examined.

Mr. Pinkerton.

5970. ARE you a smack owner and fish merchant residing at Magallagin, County Londonderry?—Yes.

5971. How far does your district extend?—I have fished with my smacks nearly all round Ireland, but the main place I have fished in is from Kilmore, up near Derry, to Malin Head and down as far as the Causeway in the county Antrim.

5972. Do you find any falling off in the catch of fish?—The flat fish has fallen off greatly, what we call flukes.

5973. To what do you attribute this falling off?—I attribute it to their being caught all the year round and small meshes.

5974. The small meshes in the net, do you mean?—Yes.

5975. Do you know the Lough Foyle district?—I do, well.

5976. I suppose you have not a great quantity of flat fish in that district, have you?—Yes; a great many kinds we have.

5977. What kind of fish have you there principally?—Codfish are there in the greatest quantities, but there are caught great shoals of codling at a time of year when they are no use for anything. The people with small nets pull them into the places amongst the rocks.

Chairman.

5978. What do you use them for?—The farmers and small people salt them and use them. It is against the law to do it, but there is no one to look after them.

Mr. Pinkerton.

5979. Can you get a sale in that district for the small immature fish?—They get a sale for these small flukes at some money, but very little. They would get more for the other fish, of course.

5980. What would you suggest as a remedy?—I think there should be a close season in Lough Foyle when the fish are breeding to keep people from putting off these nets altogether for about two and a-half months in the year.

Q.93.

Mr. Pinkerton—continued

5981. Supposing a close season was fixed, how would you suggest such an arrangement is to be carried out?—I think the police along the coast and the coastguard should carry it out. I gave evidence on salmon fishing once before, and if my recommendations had been carried out salmon would be more plentiful now.

5982. Are you in favour of reserving certain areas?—Yes.

5983. Why are you in favour of that?—Because I think, if the killing of the small fish with hand lines and the nets sweeping on them was stopped, they would grow to a certain size, and the fish would get to be plentiful; there would be then out of the lakes and loughs and get into the deep sea.

5984. Suppose the sale of immature fish was made illegal, what size would you be inclined to fix for the fish; do you know as much about flat fish as round fish?—Yes; I know about all classes of fish. I have been working at them all my lifetime.

5985. You said you were in favour of increasing the size of mesh, did you not?—Yes.

5986. What size would you suggest?—I say there should be no mesh less than a six-inch mesh; that is, from one knot to another knot.

Colonel Cotton-Jodrell.

5987. An inch and a-half from knot to knot, do you mean?—No; when you are pulling the mesh out you would have two knots right in the centre and two the other way; and that is what we call a six-inch mesh. That would be, I think, from knot to knot an inch and a-half.

5988. That would make it three inches only, would it not?—No; that would make it six inches, I think.

Chairman.

5989. It would be six inches measured round the chest, would it not?—Here is the mesh, and if you pull the mesh from one corner to the other it would be six inches across.

5990. That would be three inches pulled that way, or it would be six inches measured round, N N which

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Mr. LEEK.

[Continued.]

Chairman—continued.

which do you mean?—I mean to pull it straight across.

Mr. Pinkerton.

5991. You mean when the mesh is stretched it should be six inches from knot to knot, do you?—Yes.

Colonel Cotton-Jodrell.

5992. When you pull the mesh out diamond shape it would be six inches, is that it?—Yes.

5993. Then it would be a twelve inch mesh, would it not?—It will catch a salmon of four pounds, and that is not so large, and a codling of two pounds. It will also catch a fluke half-a-pound in weight.

Chairman.

5994. You mean an inch and a-half from knot to knot, do you?—Yes.

Mr. Pinkerton.

5995. When the trawl is in motion would it not close the mesh?—It would close it to a certain extent, but with some the mesh would open and let the fish through.

5996. Supposing larger fish had been caught?—If large fish had been in the tail end of the net the small fish would not get there, and would go out of the mesh opposite them. Then if the small fish got into the tail end of the net they would force their way through.

5997. We have had evidence to the effect that when the strain was on the net it would close the mesh almost entirely?—It would as far as the tail end is concerned, but the mesh will open at the head and let things through. Another thing, when a vessel is sailing very slowly the rope will slacken and the net will slacken too, and that will certainly open the mesh for that time.

5998. That is with regard to sailing trawlers, is it not?—Yes.

5999. But in the case of steam trawlers what would happen?—Steam trawlers do not slacken up at all unless the sea is very rough, and then the same thing would happen, or if rising on a sea the rope would slacken a little.

6000. Would you be in favour of stopping the sale of immature fish?—I would.

6001. I understand your suggestion is to have a close season and certain protected areas, and stopping the sale of immature fish, is it not?—Yes, that is my opinion.

6002. Would you be in favour of extending the three mile limit?—I think as far as our coast is concerned no steam trawlers should come inside of Culdaff Head, and the Head opposite the Causeway in the county Antrim.

6003. In other words you want the limit to be measured from headland to headland, do you not?—Yes, straight across.

6004. Would not that interfere with the rights of the line of fishers to a great extent?—No; the line of fishers are all inside of that limit. The ground they work now would not be interfered with.

6005. You only want to prevent trawlers coming inside that limit. I suppose you have

Mr. Pinkerton—continued.

no desire to prevent line fishing there?—No, certainly not.

6006. It is merely to prevent trawling inside the limit, is it not?—Yes.

6007. Do you regard steam trawling as prejudicial to the interests of the fishermen?—The cry is very strong against it in our country; they do not stop fishing either on Saturdays or Sundays, or any other time.

6008. I suppose the reason why the steam trawler is more prejudicial than the sailing trawler is that it can fish back and forward across these sheltered bays?—Yes, and when there is no wind at all. When there is no wind these steam trawlers can fish, no matter what the weather is.

6009. What time would you limit the close season to?—As far as Lough Foyle is concerned for the catching of codling, I would limit it from the 20th of June to the 12th of September, and for plaice and flukes from the 1st of December to the 1st of February, the spawning times.

6010. What bays do you suggest should be protected along that north coast?—I think there should be no fish caught from Innishowen Head to Kilmore up near Derry with either net or line.

Chairman.

6011. How many vessels are you the owner of?—I am only the owner of one now, and two small boats besides; two small boats and one large one.

6012. Have you been owner of more smacks in the past?—Yes, two smacks.

6013. How long is it since you have been an owner of smacks?—I am owner of one now.

6014. Since when did you first begin?—As owner of smacks?

6015. Yes?—I suppose 20 years ago.

6016. Did you go to sea in the smacks yourself?—Yes; I went out myself fishing herring in them, and have been out to trawl on them, too, but not for anything, only sport for myself. I had my captain and other men with me.

6017. Do you fish mostly on the west coast of Ireland?—No; I fished at Kinsale, or had my boats there. Kinsale was the place I fished for herring, and once in the Donegal Bay, but never got any.

6018. Do you think the number of fish off the Irish coast have increased or decreased within your memory?—They have decreased and increased both in my memory.

6019. Then you do not think there is much difference now, do you?—I think the cod fishing would have been plentiful the last two or three years if it had not been for the killing of these small codling. Previous to that they had declined greatly; about ten years ago they went down to a mere nothing; then they got more plentiful up to the last two years, and now they are beginning to get scarce again.

6020. To remedy that would you propose a close time?—I would propose a close time in the loughs where these small fish come in to spawn.

6021. That is with regard to Lough Foyle only, is it not?—Yes.

6022. And you are only speaking with regard to Lough Foyle, are you not?—Yes.

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Mr. MICHAEL LYNCH, called in; and Examined.

Mr. Pinkerton.

6023. I UNDERSTAND, Mr. Lynch, you are anxious to give evidence with regard to the destruction of fish inside Galway Bay, caused by steam trawling, and the general injury done to the fisheries, and I think it would be better for you to make your own statement to the Committee?—I have known Galway for the last 40 years.

Chairman.

6024. What is your occupation there?—I am a shopkeeper, and I have held official appointments as a clerk and manager of mills for some years.

Mr. Pinkerton.

6025. I believe, Mr. Lynch, you have taken a very active interest in the Claddagh fishing, have you not?—Yes. I have been connected with the milling industry for years. Now I have bakeries in Galway, and I have known the city for 40 years.

Chairman.

6026. Have you even been actually engaged in the fisheries yourself?—No.

6027. You have only taken a philanthropic interest in the fisheries, have you?—Quite so.

Mr. Pinkerton.

6028. You have been acquainted with the fishery there for 30 years, have you not?—Yes, and more.

6029. To what do you ascribe the falling off in the fish?—To the injury caused by the trawlers.

6030. The fishing colony is very much depopulated at Claddagh, is it not?—Very much.

6031. And I suppose that depopulation has caused you to take a close interest in them to ascertain the cause of it?—Yes. The poor people have asked me from time to time to attend meetings, and have passed resolutions, calling upon the Government to prohibit the trawlers from fishing inside.

6032. Are you thoroughly conversant with the fishery there?—Yes.

6033. With regard to the harbour of Barna outside Galway, what distance is Barna from Galway?—Four miles.

6034. You have a very good harbour there, I think, have you not?—Yes; very fine.

6035. Constructed at considerable expense, was it not?—Yes; at considerable expense.

6036. You had formerly a very large number of fishermen there, I think?—Quite so.

6037. Is it completely depopulated now?—Yes.

6038. To what do you ascribe that?—To the injury caused by the trawlers. I remember a quay being filled with boats there, but there is not a single boat now; the quay is filled in.

6039. Independent of that, the fishermen were evicted at Barna, were they not?—I do not think they were evicted. The fact of the matter is, from the scarcity of fish in the bay, they could do nothing.

6040. Did the government give them any

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Mr. Pinkerton—continued.

assistance in the way of providing smacks, or anything of that kind?—No; they did at one time offer it, but the Claddagh men are so poor that they could not get security.

6041. I am referring to Barna?—I am not quite conversant with Barna. I wish to confine my remarks to the Claddagh.

6042. Have you a considerable number of trawlers of Galway?—Yes; there are 13 sailing trawlers and about 12 steam trawlers.

6043. From your own knowledge, do you see a great falling-off in the catch of fish?—Certainly; at one time outside the light-house quite close to the bay at Mutton Island, they used to catch every description of fish, turbot, hake, plaice, and now there is not a trace of a fish there. I may mention that I attended a meeting of the Claddagh men on Sunday and I had from a fisherman, who was 15 years on board the trawlers, his experience. He said he remembers frequently, in passing from Black Head into the lighthouse that it would take him all his time to keep shovelling, as he said, the immature fish off the deck of the boat into the sea, and on one occasion he saw the spawn actually quivering mixed up with the sand on the deck of the boat. To use his own words, the trawlers would take up a threepenny-bit from the bottom of the sea.

6044. Do the trawlers, so far as you can ascertain, fish within the three mile limit?—They do. There was a limit to which steam trawlers were restricted by Sir Thomas Brady, but the poor Claddagh men complained that they come in within the lines marked out.

6045. Have you no means of preventing them?—No; and I might also add that the trawlers do an infinity of harm to the poor Claddagh men's lines and nets, and they have no means of redress. They are too poor to take the trawlers into the law courts. At one time, about 30 years ago, there were 176 hookers in the Claddagh and now there is only one of that description of boat. There were 30 small pokauns, as they are called, for line fishing. These hookers carried six men each, and now there is only one of that description of boat left.

6046. Would you suggest as a remedy the closing of Galway Bay entirely against trawlers?—Certainly.

6047. From where to where?—From the Island of Arran. Inside the islands, there is no doubt about it, the bay is a spawning bed.

6048. And I suppose trawling there must of necessity injure to a great extent, the fisheries?—No doubt about it. The late secretary to the Galway Steamboat Company told me that one of their boats was employed in trawling when the business was a little bit quiet, and he happened to be out at 5 o'clock in the morning, when he saw the spawn scooped up.

Chairman.

6049. Will you be so good as to tell me, of what sort of fish that was, the spawn?—I cannot say what sort of fish it was.

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Mr. LYNCH.

[Continued.]

Chairman—continued.

6050. Are you aware that no food fish spawn on the bottom?—I hear that is the theory, but I can scarcely credit it.

6051. Are you aware that that fact has been entirely established by all scientific men?—No.

Mr. Pinkerton.

6052. They are trawling in very shallow water there, are they not; what depth of water have you?—They can fish at 300 fathoms, and 10 fathoms there. But there is one thing very clear as to the fishing about the Bay of Galway; years ago there was a big take; now there is scarcely a hake or turbot or anything else to be caught about the lighthouse.

6053. Do you know anything about Mr. Green?—No. I confine myself to speaking about the injury done by the trawlers to the poor Claddagh men; and I think it would be only fair if there was an attempt made to keep the trawlers outside the islands.

6054. I suppose there is a great quantity of immature fish in Galway Bay, is there not?—Yes; there is no doubt about it.

6055. Can you get a market for immature fish?—No; they are so very small. I have seen them myself on the shore at Black Rock about an inch and a half long, and I conclude they have been disturbed, and tossed about and killed by the trawlers. Whenever the trawlers are fishing in the bay the poor Claddagh men cannot catch anything. Then, when they leave, they are able to do a little. The trawlers, they say, frighten the fish out of the bay; but the great injury done is, I think, to the spawn and immature fish.

6056. You cannot give scientific evidence on the subject, can you?—No; I cannot. The parish priest and the curate have repeatedly asked me to interest myself and to attend meetings to protest against this thing, as I have taken a great interest on behalf of the poor men.

6057. The Government, I think, promised to send down a gun boat to prevent illegal trawling, did they not?—Yes.

6058. Has that promise been carried out?—No; it has not. The Claddagh men complain that they are altogether at the mercy of those men who can provide big boats. And if the nets or lines are destroyed, they have no redress; they are unable to grapple with the aggressor in a court of law, they are too poor; and I think it would be only fair to give them a chance and have the trawlers kept outside of the Islands of Arran. There is no doubt the Claddagh men supplied the fish in Galway; in my recollection heaps of fish, tons of fish, but you do not see a fish now scarcely. Where they used to catch any amount of fish near Mutton Island, there is not a trace of a fish to be found.

Colonel Cotton-Jodrell.

6059. What is the area of this fishing district invaded?—It is nine miles across, I think, from Black Head to Spiddle, and then, say, six miles into Galway, or more.

6060. Is it within this stretch that this fishing takes place, of which you complain?—Yes; in fact, the islands.

Colonel Cotton-Jodrell—continued.

6061. Is there any fishing takes place outside this nine-mile line across the bay?—Yes; by the trawlers. The principal part of the fishing is, as I say, in the nine-mile radius from Galway; but outside on to Arran itself, 30 miles from the bay also; and we wish to have them kept outside the Island of Arran. Inside the nine-mile distance is principally the spawning beds, and that is where all the injury is done.

Commander Bethell.

6062. I understand that you attribute the absence of fish and the small size of the fish entirely to trawling, do you not?—Yes.

6063. Steam trawlers and sailers as well?—Yes; the sailing trawlers are now complaining as much as the Claddagh fishermen of the steam trawlers, that they are destroying their fishing.

6064. What sized vessels are these steam trawlers?—I cannot say.

6065. Are they 100 feet long, do you think, or about that?—I should think close upon that.

6066. Can you tell me what size trawl beam they use?—I cannot.

6067. Have you no idea?—No idea.

6068. Can you tell me whether they use one trawl or two?—No; I cannot. I have never been on board a trawler.

6069. Have you formed any idea as to whether, if there were no steam trawlers, the sailing trawlers would do any harm?—Yes; it is only within the last two years we have had steam trawlers. The great complaint has been about the sailing trawlers for the last 30 years.

6070. The other fishermen have complained of the sailing trawlers, have they?—Yes.

6071. Have you any idea of the number of sailing trawlers that work on an average in Galway Bay?—Thirteen; and then they can come from any part of the world they wish.

6072. Is that including steam trawlers?—No; there are 13 sailing trawlers, besides steam trawlers. They come from France, the Isle of Man, and everywhere.

6073. Do they shrimp in Galway Bay?—No.

6074. Is there no shrimping there?—No; not that I know of.

6075. Is there no shore netting, or seining, or stake netting, or any of those things?—No.

6076. Is the other fishing all by line?—Yes; nets for the herring and mackerel, and lines for the other fish. As I say, there is only one hooker in Galway just now.

6077. Have you collected any statistics about Galway Bay?—No.

6078. Are there any statistics about Galway Bay in existence?—I have no doubt there are.

6079. In fact, does the evidence that you have given us rests rather upon the impressions that you have received than what one may call any very accurate inquiry?—Quite so. I do not know that it is very valuable, but that is my impression.

6080. Can you tell us what the average depth of Galway Bay is?—I think it is 100 fathoms. Part is very deep, and part very shallow.

Chairman.

6081. Is it not the fact that most of the trawling in Galway Bay is carried on in water from

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Mr. LYNCH.

[Continued.]

Chairman—continued.

80 to 100 fathoms in depth?—I am not aware of it. I think they trawl in all parts of the bay.

Commander Bethell.

6082. Have your fishermen a ready market for their fish elsewhere besides Galway?—Yes.

6083. Do they send the fish away?—No; the Claddagh men do not; the trawlers send it to Dublin.

6084. How?—In boxes.

6085. By rail?—Yes, by rail.

Mr. Buchanan.

6086. You have been acquainted with the grievances of these fishermen for 25 years or so, I understand?—Yes.

6087. Have these grievances increased in intensity since the steam trawlers came in?—Yes, they have, certainly. The Claddagh fishermen are almost wiped out.

6088. Trawling within the territorial waters is prohibited now, is it not?—No; it was. Steam trawlers were confined to certain limits, but they have broken through those limits, and the sailing trawlers complain of that now.

Chairman.

6089. The Irish fishery inspectors have the power, have they not, to prohibit it?—Yes.

Mr. Buchanan.

6090. May I take it then trawling is not prohibited in Galway Bay?—No.

6091. Then what you propose is, is it, that the trawling in the entire area within the Arran Islands should be prohibited?—Yes.

6092. Would you be of opinion that on similar areas elsewhere where a similar grievance is felt similar prohibitions should be imposed?—Yes; I think it is prohibited in the Firth of Forth.

Mr. Pinkerton.

6093. Do you remember what was the population of the Claddagh?—Some years ago it was close upon 3,000.

6094. What is it now?—I do not believe that it is more than as many hundreds.

Mr. Buchanan.

6095. Where is it; is it near Galway?—It is quite near the town. It is a settlement of fishermen actually in the city.

Mr. Pinkerton.

6096. Do you think the way the trawlers have swept the bay has taken the bread out of the mouths of the fishermen, and driven them from the place?—Yes.

Mr. Buchanan.

6097. Is it close to the town?—Yes, it is part of the town; it is a little village really, but it is part of the town.

Mr. Pinkerton.

6098. The Claddagh people, I believe, at one time had laws of their own?—Yes.

6099. And formerly elected a king, did they not?—Yes.

6100. And all the fishing regulations were carried out by them, were they not?—Yes.

0.93.

Mr. Pinkerton—continued.

6101. And the trawlers have succeeded in dethroning the king and depopulating the Claddagh, have they not?—Yes, they have.

Chairman.

6102. Are you aware that, during the years from 1873 to 1876, the most careful experiments were carried on with regard to trawling in Galway Bay?—No, I am not aware of it.

6103. Are you not aware that, during those three years, on 100 different days, two vessels trawled the bay under the direction of the Irish Fisheries Inspector, and of every one of those hauls a careful record was kept, which I have before me here?—No.

6104. Would it surprise you to hear that, as the result of those 100 days' trawling, in not one of those days was any trace of spawn found in the trawl net?—It would surprise me very much.

6105. That is the fact. That trawling was carried on through the year, every month of the year?—But I look at the result to the Claddagh fishermen.

6106. What I want to do is, if I can, to bring your evidence on to really sound ground, I want to sift away what I believe to be false ground?—I do not know if I ought to mention it, but the Claddagh men repeatedly have said in this matter of experiments that they had not much confidence in them, and that there were only officials who went to superintend them; I may as well mention that.

6107. At any rate, you can carefully note the contents of a net when it comes up, can you not?—Yes.

6108. Is it your opinion that a great quantity of small fish is killed by the trawls?—I have not the slightest doubt about that.

6109. You have not been on a trawl, but you are giving the general popular opinion, are you?—Yes.

6110. Again, would it surprise you to hear that as the result of these 100 trawls there was hardly any small fish taken?—Yes, it would surprise me very much.

6111. With regard to the question of flat fish, turbot, plaice, and so forth, were any great number of these flat fish taken by the Claddagh fishermen in old days?—Yes.

6112. How?—By lines, quite near the docks.

6113. Did they catch any soles on their lines?—Yes, they caught all kinds of ground fish on their lines about Mutton Island—turbot, plaice, soles, and flounders, also hake.

6114. Hake is a round fish, is it not?—I am not confining myself to the ground fish.

6115. I was confining myself at the moment to the flat fish. Did none of the Claddagh fishermen have any small trawls of their own?—Never.

6116. They were purely line fishermen, were they?—No; they fished with lines and nets, and did not do any deep trawling.

6117. But had they any trawls at all?—No.

6118. Not small trawls?—No.

6119. Then they fished for the flat fish entirely with lines, did they?—Yes; and for herrings, mackerel, and hake with nets.

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6120. I suppose

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Mr. LYNCH.

[*Continued.*]*Chairman—continued.*

6120. I suppose your contention would be that this large amount of trawling going on in this confined space greatly interfered with the lines and nets of these local fishermen?—Yes, as well as destroying the small fish and the spawn. The trawlers repeatedly destroyed the lines and they got very little compensation.

6121. What I want you to establish, if you can, is that there was great damage done to the gear of these fishermen?—There is no doubt about it.

6122. Is there, do you suppose, any possible method of regulation by which the line fishermen of the Claddagh and a certain number of trawlers might be able to carry on their business together?—No. I would suggest (you may take it for what it is worth) that all the trawlers be kept outside the Bay altogether.

6123. But the Irish Fishery Inspectors have the power to prohibit trawling in Galway Bay, as it is, have they not?—Yes, I am aware of that; they did that in 1890, but it was of very little use; the people broke through the rules.

6124. In what year was trawling prohibited in Galway Bay?—In 1891. I have here a bye-law issued by Sir Thomas Brady, in December 1891.

6125. When was this bye-law withdrawn?—I cannot say, but even before it was withdrawn, it was violated.

6126. Is it withdrawn?—Yes, I think it is.

6127. Are you able to speak generally of Irish Fisheries?—No.

Chairman—continued.

6128. You simply wish to bring forward this particular grievance, do you?—Yes; to confine myself to the injury done by the trawlers to the fish in Galway Bay.

6129. Do you think it would be easy to enforce the prohibition of trawling if such a bye-law were passed?—I have no doubt it would.

6130. How would you enforce that?—If we had a Government gunboat there it would be easy; the very presence of her I think would keep the trawlers outside the islands.

6131. I quite agree it might possibly be done in that way, but do you think it would be possible, in every bay where trawling was prohibited to place a Government gunboat?—Yes, I should say so.

6132. It would be rather an expensive way of dealing with the question, would it not?—I do not know.

Mr. Pinkerton.

6133. I was in communication with the Admiralty, and they said they would send a gunboat periodically?—No doubt.

Chairman.

6134. You have no local District Fisheries Committees in Ireland, have you?—No.

6135. Do you not think it would be a more satisfactory thing if the various districts of Ireland had charge of their own fishing and enforced their own bye-laws?—Yes; that would be a very good step to take.

Mr. A. H. SINGE, called in; and Examined.

Chairman.

6136. HAVE you taken a great interest in the fisheries off the West Coast of Ireland?—Yes, off the coast of Donegal.

6137. I think you have got a scheme for developing those fisheries, have you not, which you wish to put before this Committee?—I have, the practical or most important part of the scheme being a harbour. There seems to be the clearest and most emphatic evidence that off the north-west corner of Donegal exists one of the richest fishing banks probably in the country. For 20 years the Irish Fishing Boards report almost every year shoals of herring and shoals of mackerel off the coast, but no means of capture. Evidence taken by the Irish Fishery Board in 1878, and with great details by the Royal Commissioners under Sir James Allport, establishes that every kind of fish exists almost off that coast in large quantities, but no attempts are made to capture them, or small attempts only in open row boats and nothing else can be used on that coast until there is a harbour.

6138. How far out to sea are these banks of which you speak?—Apparently many years ago, from the evidence, the fish were nearer in shore than they are now. The late Irish Parliament spent a large sum of money in the neighbourhood because of the large catches. They caught

Chairman—continued.

80,000*l.* worth of herring in one season there according to the report. I cannot verify it.

6139. When was that?—About the year 1790. Then the old Irish Parliament spent large sums of money near there on the same bank, but not exactly at the same spot I am advocating.

6140. Is it not the fact that off the west coast of Ireland after a very short distance, the shore shelves sharp down into the Atlantic?—Yes; except here. That is the case off nearly the whole coast. Off this coast I do not know what the area may be, but you can go 30 or 40 miles, and I think I am right in saying you would not get more than 150 fathoms of water.

Mr. Pinkerton.

6141. In what particular place is that?—It is off the coast of Donegal, in the neighbourhood of Tory Island. Just opposite this bank nature has made a bay which affords all the facilities for making a really first-class fishing harbour at a moderate cost.

6142. What is the name of that place?—Cruit Bay. I would like to say that plans have been drawn up for a harbour, which have been submitted to Mr. Abernethy and Mr. Wolfe-Barry, who were the Royal Commissioners under Sir

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Mr. SINGE.

[Continued.]

Mr. Pinkerton—continued.

Sir James Allport. They in their report reported generally the great want of this district was a harbour. They have been looking into these plans, and they say they are in accordance with their recommendations, and have written me a letter, in which they said, in their opinion, having regard to their report, this project should be carefully looked into. Not being an expert, I cannot possibly expect to arrive at a clear decision myself; all I can do is to collect the very strong evidence there is upon the point, and bring it down to a practical focus. There may be other things which one has not heard of which may be against the project.

6143. Do you own property in Donegal?—No, I have nothing to do with that part of the country, but for a long time my family have taken an interest in such things. My father, I think, was the first to develop fishery off the Galway coast. I have no interest in Donegal excepting the very great interest I take from having been there, and having seen the country. It is a district that very much wants encouragement; there are 20,000 or 30,000 people there, and the only thing that can possibly do them any good is either the fisheries or developing the granite trade. They try to live by agriculture, which is absolutely impossible, and they have to go to England and Scotland for work in large numbers. Some 3,000 or 4,000 migrate every year, showing that they are good workmen and would work if they could; while all the time there is this wealth lying at their door, and they can by no possibility work it unless a harbour is built.

6144. How much of coast line would this harbour serve?—A long coast line; as far as any harbour would serve. I suppose, so far as the fishing banks go, you would have a length of 30 or 40 miles of fishable ground running out to sea for a long distance.

6145. Have you any exact knowledge on the point?—It is very hard to get exact knowledge; it is a sort of unknown land.

6146. You cannot tell the Committee the results of any fishing experiments on these grounds, can you?—No, except the evidence from the local fishermen who go out when they can. Their evidence proves enormous takes.

6147. What do they fish with?—Most of these people fish with long lines, and they have some sort of nets with which they catch herrings, but only in small quantities.

6148. Can you tell the Committee the average depth of water on these banks you are speaking of?—About 40 to 60 fathoms, running up to 70. I would have brought an Admiralty chart to have shown it, but I was not quite prepared to give evidence just now.

6149. Can you tell the Committee the result of any trawling experiments on those grounds?—Very little. There is evidence laid down in the blue books by various people, especially one Captain Knox, Galway, now inspector of Irish Lights, who trawled there when he was out some years ago in a revenue cutter.

6150. Are there no harbours now on that coast from which fishing boats could fish?—Absolutely none.

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Mr. Pinkerton—continued.

6151. Is there any railway communication within this particular place you are recommending?—No, and there never can be; but there is a sea communication which is much better for fish; you can get into the markets of Fleetwood, Glasgow, or Belfast, all within a reasonable time, and there is no doubt that carriage by sea is very much better for fish; it is much cheaper and much easier.

6152. What is the estimated cost of this harbour?—According to an estimate made by Mr. Parsons, a very clever engineer, it would be about 110,000*l.*, and I would like to say that sum would provide a harbour equal to many harbours costing ten times that money, because of the natural conditions. There is not a fishing harbour in Ireland to compare with it. Cruit Bay is a bay between Arran Island and Tory Island. It would serve Gweedore and between Gweedore and Dunlow. You would get there about 20 feet of water at low spring tide for, I think, about 20 acres. There are roads on each side where there is good anchorage; there is no tideway at the mouth, there is no chance of silting up; in fact, it fulfils nearly all the conditions laid down by Mr. Stephenson and other engineers in a Committee of which, I think, sir, you were chairman, in the year 1883. There are about 20 conditions laid down there as necessary for a first-class fishing harbour; and I think I can prove that this bay fulfils nearly all of them, and if this harbour was built it would be a superior harbour, really, to any in Scotland, England, or Ireland. That is, speaking as to its sea qualities.

6153. What possibility is there of any money being found towards making this harbour?—I start on this basis, which is very clearly laid down by such experts as Mr. Abernethy, and was very clearly brought before you in that Committee by some half-a-dozen experts of first-rate eminence, namely, that wherever a proper fishing harbour is built in the right place it pays. That was accepted by your Committee, I think, almost as an axiom.

6154. I am sorry to say I cannot endorse that?—It would be a first-rate harbour. There are many harbours, but there are very few harbours which fulfil all the conditions.

6155. I am afraid I cannot accept that as being accepted by any Committee of this House?—There are five of the witnesses who say so.

6156. I quite believe witnesses told us so, but that is quite a different thing. However, generally speaking, you are not prepared to give us general evidence with regard to the condition of Irish fisheries, are you?—No.

6157. Your point is this, is it not, that there are, to the best of your belief, considerable unworked fishing grounds off the coast of Donegal, that those fishing grounds lie very conveniently to Cruit Bay, and that in order to develop those fishing grounds properly a harbour should be constructed in Cruit Bay?—Yes.

6158. And you say Government ought to give assistance towards the construction of that harbour, do you?—Yes; and may I say a harbour in the Scotch sense of the word, and not in the Irish sense of the word.

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6159. I do

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Mr. SINGE.

[Continued.]

Mr. Pinkerton—continued.

6159. I do not think we need deal with various nationalities?—No; but unfortunately there has been about a million of money wasted on Irish piers that will never earn a cent.

Commander Bethell.

6160. I have often heard, as you have said just now, that it is impossible for any fishing to take place off this coast because there are no harbours, but I have been to some of these places and looked at these charts, and I am persuaded that there are numberless places here where fishing boats might lay up without the harbour which you suggest, which of course would be a great convenience?—No fishing will be successful that is not commercially managed, and when you say a harbour you do not mean a place where a boat may ride out a gale. There are roads on each side of this place, but you want a place where fishing boats can come in, and big boats, because it is a rough sea. These large 60 to 70 ton boats require 10 or 12 feet of water. They must be able to get in at all states of the tide, and then they must be able to land their fish. Then also you must have a harbour where a steamer can come in at all states of the tide to take the fish away to market.

6161. There are numberless places in which such boats can lay, are there not?—I think you will find there are very few.

6162. These marks on the map you produce are all low-water soundings, are they not (*pointing to a map*)?—Yes, except where there is a line underneath.

6163. If the people of this district were anxious to follow the industry of fishing, undoubtedly the industry could be started without the expenditure of a large sum of money on a complete harbour, could it not?—How would they get the fish to market?

6164. The fish could be got to market without the expenditure of 110,000*l.*, could it not?—It would to some extent, but how would they get the fish to market?

6165. By steamer?—But you must have a deep water place, where a steamer can come in, as a port of call, and no one would send steamers there unless it was pretty safe.

Chairman.

6166. Are you not aware that steam carriers accompany the trawlers in the North Sea, that fish are transferred from the trawlers to these carriers in the middle of the North Sea, and are then brought to the English ports?—Quite so; but I am afraid the North Sea is a more tranquil sea than the Atlantic at this place, and that is one point, if I might make the observation, which has to be weighed, and which I am not in a position to weigh, namely how far the tempestuousness of the sea would make the fishing more difficult than elsewhere. There is evidence on both sides. Some large fishing boat owners have told me their smacks would not care about the sea if there was a harbour they could run into at all tides under the lee. I might also say where that happens, which happened at Kinsale, Ireland is robbed of the money she ought to have, because, if they take the fish away, it does not come into the country. If you

Chairman—continued.

have a trawling off a port, enormous wealth comes into that country, because the people buy their ice and salt, and mend their nets, boats, and so on, and a hundred things are done there.

6167. It has been constantly stated that Irish fisheries are in this poor condition because there are not harbours. Is it your opinion that upon a coast like the Irish coast, with numerous small excellent bays, it is impossible for the fishing industry to be carried on?—I do, because the industry requires so many things; it is not merely a question of a harbour. You have to supply the boats with ice, salt, provisions, and water; you want a place to dry their nets, and a gridiron to mend their boats on.

6168. But it is one thing to supply a good deal of that, and another and different thing to supply harbours, is it not?—Then the answer to that is that wherever these big sums come in it is at these places where there are harbours. Grimsby was not a harbour at all, but the railway developed it at a great cost, and now they land over a million's worth of fish there.

Colonel Cotton-Jodrell.

6169. One of your points is, is it not, that it is impossible to get land transport?—Yes, a railway would carry nothing in that district except fish and granite, it would have to be tacked on to a railway which runs to Derry, and then you would have to transfer the goods to another railway. Then fish travels much better by water.

Mr. Buchanan.

6170. What you propose to establish is a large fishing station there, is it not, by the building of this harbour?—Yes, and there is strong evidence to show it would pay enormously. All harbours that have anything like the accommodation this harbour would have, have been very prosperous.

6171. But it would be practically impossible to connect it, would it not, with the railway system of Ireland?—If this place developed, it might be possible to run a railway there, but a sea communication, I think, would be very much better.

6172. Was any proposal with regard to this harbour made at the time the railways and other things were being constructed?—No, it was only put into shape at the beginning of this year, and the district boards in Ireland are considering it, and would like to do something towards it, if help can be got elsewhere.

Mr. Pinkerton.

6173. It would open up a new fishing ground, would it not?—Yes, one of the biggest, which is practically unfished, and must be unfished until this is done.

6174. What would be the amount required, do you say?—To make a perfect harbour, the estimate is 110,000*l.*, and there would be a very large general trade at once there. Two lines of steamers would call in at once, steamers running from Sligo to Liverpool, and Sligo to Glasgow. I have sent the owners of these steamers these plans, which they have carefully considered, and both say they would run their steamers in.

Then

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Mr. SINGE.

[*Continued.*]*Mr. Pinkerton*—continued.

Then there would be a saving of 3,000*l.* a year to emigrants to-morrow if the harbour was built, because they could get off by ship from there, and there would be also great economy in the importations of Indian meal, which the people live on. I think also there would be a considerable trade there in granite after a time, because the granite there is equal to the Scotch granite, as I have proved by having had large samples polished.

6175. But you can offer no suggestion where the money is to come from, I understand?—I could. I do not know whether I might be permitted to go into that now.

6176. Tell us, briefly, what you think about it?—I think for 110,000*l.* industries could be started there which would transform the whole of that country; and if 50,000*l.* was loaned, as it might be fairly, because a harbour there would do what railways do for other parts of the country, the dues of the harbour would be a fairly safe security. I think I might safely say that various individual people would find 50,000*l.* to complete the capital required. At starting it would be a quasi-philanthropic concern, but I think there are elements in it which would make it commercially sound. This place is analogous with Peterhead; I do not think the fishing is any superior at Peterhead to the fishing here, and I do not think the granite is any superior there than here. They have spent large sums at Peterhead, and the Government are laying out 300,000*l.* or 400,000*l.*, and a quarter of that spent here would do a very large amount

Mr. Pinkerton—continued.

of good to a large number of people who cannot possibly help themselves, because they have no money.

Major Jones.

6177. In what kind of fish is this water rich?—Every kind; the herring and the mackerel are there, according to the Blue Book Reports, almost every year; in fact, they may be every year. They catch cod in very large quantities, sole and turbot, and large quantities of lobsters and crabs.

6178. By whom is it fished now?—It is hardly fished at all, because without having a harbour you cannot have a big boat; they have only these little open row boats; they can only go out in those boats when the weather is calm, and then they cannot go out to any great distance.

6179. How do you account for the fact that steam trawlers from other parts do not come to that water to fish?—I do not think they would like to come without having a port under them; I think if they had a port to run to they would come. Two or three people have told me, if this harbour were built, there would be no difficulty; in fact, that fleets of boats would go there at once, and that you would make a fishing port of it at once.

6180. How much do you say this fishing harbour would cost?—To make it complete and perfect, 110,000*l.*, but it might be possible, although it is not often a very good thing to do, to make half of it first of all.

Tuesday, 11th July 1893.

MEMBERS PRESENT:

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Major Jones.

Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.

MR. MARJORIBANKS IN THE CHAIR.

Mr. WILLIAM SPOTSWOOD GREEN, called in ; and Examined.

Chairman.

6181. ARE you the chief inspector of Irish Fisheries?—I am one of the inspectors.

6182. I think in Ireland your powers are very much the same powers as are vested in the Scotch Fishery Board; the same powers are given to the three Irish fishery inspectors, are they not?—Yes.

6183. Will you tell the Committee what are the general powers of the Irish fishery inspectors?—The general powers of the Irish fishery inspectors are first of all to investigate memorials which may come up to us asking for bye-laws to be made with regard to the salmon fisheries, and also with regard to the sea fisheries all round the Irish coast. We also have to make inspections at various times with a view to getting information with regard to the extent and the prosecution of the fisheries.

6184. You have considerable powers, I believe, in the way of making bye-laws, have you not?—Yes; we can make bye-laws regulating the sea fisheries within territorial waters; those bye-laws which we make are to be ratified, of course, by the Privy Council; we report to the Privy Council, and the bye-laws become part of the law of the land on being ratified by the Privy Council.

6185. They require in no way the sanction of the House of Commons, do they?—No, they are merely ratified by the Lord Lieutenant in Council.

6186. Have you had considerable experience in the investigation of the Irish fisheries?—Yes, I have been interested in the Irish fisheries all my life, but, in 1885, I was asked to undertake special work for the Royal Irish Academy in investigating the marine fauna off the west of Ireland. In the summer of every year since then, I have been working either for that society or for the Royal Dublin Society or for the British Museum, and for two years I was surveying the fishing grounds under a joint Commission between the Royal Dublin Society and the Government, with a view to ascertaining the condition of the fishing grounds actually, and the extent of them.

6187. Then I may take it that you have a considerable knowledge of all the fishing grounds round the Irish coast, may I not?—Yes, particularly on the west coast.

Chairman—continued.

6188. Can you, in the first place, tell us whether you have any reason to believe that at the present moment there is any deterioration or depletion of the Irish fisheries generally?—Not generally.

6189. But you do see certain signs of falling in some of the Irish fisheries, do you not?—Yes.

6190. Which are those?—The herring fishery is the one which has shown the greatest decline.

6191. Where?—Chiefly in the Irish Sea, on the east coast of Ireland; I do not know that there is any evidence to show there has been a decrease of herrings on the west coast. The decrease on the east coast, which is chiefly about the County of Down and the neighbourhood, has not extended to the south, because at Dunmore last year there was excellent fishing.

6192. It is between Ireland and the Isle of Man, is it not?—Between Ireland and the Isle of Man there has been the chief falling off.

6193. For how many years has this falling off been noticeable?—We have been taking accurate statistics since 1887 only, and since then there has been a very perceptible falling off.

6194. Can you give us any figures to prove that statement?—I will give you them so far as they go. In 1886 the Treasury sanctioned 350*l.* per annum for the purpose of collecting statistics on the Irish coast. The arrangement for the collection of those statistics has been entrusted to us, and a falling off in the herring fishing is shown by those statistics, though I must say they are very far from being accurate, as the amount of money at our disposal is not at all sufficient for getting the statistics we should like to get, and even if more money was paid it is a question if statistics would then be all that might be desired. With that qualification, so far as the statistics go, in 1887 the total catch of herrings was 213,000 cwts. And in 1892 it was down to 96,000 cwts.

6195. Was that a steady decrease from year to year?—That was a steady decrease.

6196. It was not a fluctuating one?—It went down from 213,000 cwts. (not giving the hundreds) in 1888 to 132,000 cwts.; in 1889 to 118,000 cwts.; in 1890 to 85,000 cwts., but in 1891 it rose to 102,000 cwts., and then in 1892 it was 96,000 cwts.

6197. The

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Mr. GREEN.

[Continued.]

Mr. Robert Price.

6197. The first year sounds an exceptional year; it is so much bigger than the next one?—The fishing was then near its height.

Commander Bethell.

6198. It was the commencement of the statistics, too, and very likely they are not so much to be depended on in the first year?—I can go back a little further than that. I have not got them in the lump earlier than that. From 1883 there has been a decrease at the Howth fishing, from 11,000 mease in 1883 to 6,000 in 1884; and 2,000 in 1885; that is the Howth only. The decline began much earlier, for in 1876 the catch was 86,000 mease.

Chairman.

6199. Are these herring fisheries on the north-east coast of Ireland carried on by native Irish fishermen, or are they carried on by Scotchmen and Manxmen?—They are largely carried on by fishermen from Howth and from Ardglass, and various places in the County Down.

6200. They are principally carried on, then, by native Irish fishermen, are they?—Yes, but a large number of other boats used to come to the herring fishing.

6201. Can you tell us at all what is the proportion of the native Irish, and the English, and Scotch fishermen?—Of course it is in our reports, and if I had time to go back to those days I could give it quite accurately.

6202. Cannot you give us roughly the general proportion?—About half-and-half. When 600 boats were fishing out of Howth the proportion of strangers was much greater.

6203. Has there been any falling off in the number of what I may call foreign fishermen coming to that portion of Ireland during the last 10 years?—Yes, a great falling off. Very few fishermen from the Isle of Man or Scotland visit the Howth fishery at all now.

6204. Since when have they ceased to visit the Howth fishing?—I think since 1887. A few, however, continue to come: thus, in 1890, 38 Scotch boats fished at Howth for a short time.

6205. Does not that account at once for the falling off in the number of herrings caught?—It does, but there is this, we have been making inquiries about that, and I personally made inquiries through the Arklow fishermen who fish for herrings in those waters, and taking what we might call shot for shot they cannot get the same amount of herrings now; so far as I can learn, they cannot get in a shot now as many herrings as in former years. It seems to be a *bonâ fide* falling off of the number of herrings in the Channel. Whatever the cause may be there seems to be a falling off in the number.

6206. Is there any falling off in the number of native Irish boats and fishermen who are fishing in these waters of recent years?—A number of boats at Kilkeel, Ardglass, and Howth have gone out of repair and have gone to the bad since those years, and very few new boats have been built.

6207. Then is the opinion strongly in your mind that this falling off in the fisheries has not taken place on account of the fewer boats and less appliances being directed towards the fishing in these waters, but on account of the actual

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Chairman—continued.

falling off in the number of herrings in that portion of the sea?—I think so. But it should be tested by experiment carried out on strict scientific principles.

6208. Would you give us your opinion of the reason of this falling off?—Herrings are, above all fish, the most difficult to give any opinion about; they are the most fickle, because next year, for all I know, there may be a great influx of herrings into the Irish Sea, and any reason I could give now for the falling off of herrings might be altogether cast to the wind within the next 12 months.

6209. But in spite of that danger, which is incident to all opinions with regard to fish, I should like to know what your view is?—There is no fish so fickle as the herring, but I could give you what the fishermen say; I could give you lots of reasons.

6210. I would like to have your own opinion first?—I am afraid I have to plead ignorance upon that.

Dr. Clark.

6211. You have not formed any opinion, have you?—I have not formed an opinion except, as I have said, there are laws governing the fluctuation of herrings on various coasts that seem to me to be perfectly unaccountable, and the same might be said with regard to other fish. Haddock left the Irish coast for years and then returned.

Major Jones.

6212. That does not advance us a single stage, does it?—If I could give you a theory that I could give you any reason for, I should be most happy to state it.

Chairman.

6213. I think we may leave it that you think the fact is so, but that, so far as you are concerned, you cannot give any definite opinion?—No, I would be very sorry to venture an opinion.

6214. You look upon it, in fact, as something in the nature of an act of God, do you not?—Yes.

6215. What are the reasons given by the Irish fishermen?—One reason given by the Irish fishermen is that the fishing done off Kinsale breaks up the schools before they enter the Irish Sea. Fishing at Kinsale, and fishing at Dunmore, has prevented the schools coming up the Channel, they think.

6216. Do you think that shoals of herring do migrate from south to north in that way, or do you think that the herring are pretty much located in their various districts, and then work up to the surface, and up into the shallow water, and are caught without migrating from north to south or from south to north?—So far as I have formed any opinion on that subject, it is that the migrations of herrings are within very narrow limits, and that herrings do not wander in great armies along the coast.

6217. Therefore you do not think that fish being caught at a point on the coast, say Kinsale, would account for the shoals being broken up 200 miles further to the north?—I do not think so; I may be wrong, but I do not think so.

6218. Now let us go to another reason given by the Irish fishermen?—Another reason has been given by the Manx fishermen, and I have

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heard

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[Continued.]

Chairman—continued.

heard it stated very often, that since the banks, the rough ground round the Isle of Man, have been trawled, the spawning beds of the herrings have been interfered with. There is no question that the trawlers venture in upon rough ground recently which they used not to go upon, in pursuit of sole. They take the risk of tearing their nets, and so on, in order to get more fish. This rough coralline ground was the ground on which the herrings deposited their spawn, and the theory is that the trawling has disturbed those grounds.

6219. In your opinion do you think that is a well-founded idea?—There is no question but that the herring frequent that rough coralline ground for spawning, but how far trawling will interfere with them I do not know. Judging from what I have seen brought up in the trawl, there are areas in the Irish Sea where one coralline (*Antenularia*) seems to grow as thickly as heather on a moor.

6220. Is not the trawling which you speak of as being carried on in this rough ground carried on rather in the smooth passages between the rough ground than on the rough ground itself?—They venture as far as possible into the rough ground.

6221. In fact, on the rough ground itself it would be impossible to trawl, would it not?—On rocky ground it would be.

6222. It is rather the smooth patches they trawl in, is it not?—Yes. That objection has not been raised on the Irish coast. I have been at Kilkeel in the middle of the herring fishing, and we went out and dredged on the spawning beds where the herrings are being actually caught with the spawn running out of them, and the ground there is altogether too rough for trawlers, so that the herrings cannot be injured all along that Irish coast on their spawning grounds by the trawlers; it is all rocky and bouldery ground which could not be looked at by a trawler. It is a great spawning ground.

6223. With regard to the falling off in the herring fisheries in the Irish Sea, have you any suggestion to make with regard to legislative interference?—I have not.

6224. You would not approve of any proposal for a close time or anything of that sort?—I would not.

6225. Are there any other fisheries besides those herring fisheries in the Irish Sea which have fallen off?—The most important drift net fishing in Ireland is the mackerel fishing, and on the south coast this year there has been a falling off, and for several years off Kinsale there has been a falling off.

6226. We had it in evidence two or three days ago that the falling off in the mackerel fishing off the south coast of Ireland was due to over fishing, and that the mackerel were in danger of being fished out off the south coast; would you hold that opinion?—I would be very sorry to make any suggestion that would start a hare that might not be the true one to hunt, but within the last few years there has been a great autumn mackerel fishing on the south coast which used not to take place in olden days, when the spring mackerel fishing was at its best. As that autumn fishing is a fishing for practically

Chairman—continued.

immature mackerel, it is possible the development of the autumn fishing may have had a prejudicial effect upon the spring fishing, which is the great paying fishing, but it in itself has been a paying fishing. There are on the south coast of Ireland now several large American purse seines in use, and they kill, no doubt, a considerable quantity of small mackerel. The purse seine is an engine that has had limitations placed upon it on the American coast.

6227. Would you suggest any restriction of this mackerel fishing?—On the general autumn mackerel fishing I would not, as long as the fish are of good size, but we have been considering how we could check the destruction of small mackerel in these seines. It is not an easy thing at all to come to a conclusion about, because the men have these seines for catching herrings and sprats, and if we limit the size of the mesh we make their seines useless for catching herrings. The catching of these schools of small mackerel seems to be to a great extent accidental. When they enclose very small mackerel they let them out. One crew told me on one occasion last year they enclosed a whole school of small mackerel, which they thought were sprats, and when they found what they had caught they opened the net and let them all out. But we know also that they have killed great quantities of small mackerel in these seines occasionally.

6228. Is there a market for these small mackerel?—No; but in killing a certain amount of mackerel which are marketable for curing for the American market, there is necessarily a number of small ones killed too. But there are only five or six of those seines at work, so that the effect of them on the general fishing cannot be very serious at present. It is a class of fishing which we should like to discourage as much as possible if we could do it without checking the men in their legitimate fishing for herrings.

6229. But you would not be in favour of any legislative interference, would you?—We do not see our way to it yet.

6230. Are these small mackerel principally caught in the territorial waters?—Yes; those are mostly caught up in Bantry Bay and Dunmanus Bay, where the seines are used.

6231. Are those the only two classes of fisheries in which you would say there has been any noticeable falling off, in your experience?—I think so.

6232. And with regard to neither of those do you think byelaws or legislative interference would be of any use?—At present I do not think so. Of course the total catch of mackerel this last year has been very good. The falling off is only on certain parts of the coast, and not generally, because there are schools of mackerel on the Irish coast, immense quantities of them, in districts which never have been fished yet, where they are allowed to come and go without being interfered with.

6233. What would you consider the species of fish that are of the greatest importance on the Irish coast for Irish fishermen?—Mackerel first; herrings we have spoken of; and then plaice, and soles, and turbot; after these, haak, ling, and cod.

6234. With regard to the flat fish, do you see any

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Chairman—continued.

any falling off?—So far as our statistics go they show no sign of falling off in plaice, sole, and turbot.

6235. Where are plaice, sole, and turbot principally caught?—They are principally caught by Irish trawlers, off Dublin; that is, between the Isle of Man and the Arklow banks, in that piece of the Irish Sea. There are about 60 to 70 trawlers go out from Dublin and trawl, according to different seasons, on these different grounds.

6236. Are they sailing trawlers?—Yes, all sailing trawlers.

6237. Have you any steam trawlers in Ireland at all?—No large steam trawlers belonging to the country; there are a couple of little boats propelled by steam which you can hardly call steam trawlers.

6238. Are these grounds frequented by other fishermen besides the Irish?—Yes. I should say the trawling is carried on by Irish fishermen off Dublin, then at Dunmore, Dungarvan, and off towards Cork. Then we come to a fleet which is quite separate from all the others, that is the Dingle fleet. There are 19 trawlers belonging to Dingle fishing in Dingle Bay. Then in Galway Bay there are 9 or 10 sailing trawlers; in Clew Bay there are a few small boats fishing along the shallow waters trawling. The same is the case up at the head of Dingle Bay, and the same out of Portrush and Lough Foyle. Steam trawlers come from England all round the Irish coast.

6239. I suppose there are grounds on the west coast of Ireland which really are untouched almost by trawlers, and where trawling operations might be carried on with advantage?—Off the west coast of Ireland the water deepens very rapidly, so that the territorial waters and the 40-fathom line nearly coincide. If you go about three miles off the west coast of Ireland from the nearest islands or nearest land, you very soon get into 50 fathoms of water, and, as far as my experience goes, there are no plaice, sole, or turbot outside 60 fathoms, so that the areas that could be trawled by these steam trawlers are limited, particularly when we close the bays against them, as we have done in several cases. Last year there were a great number of steam trawlers working on the Irish coast; I counted 16 one day, myself, in Clew Bay.

6240. Where do they come from?—From Grimsby, and Hull, and Milford, and a great number of ports.

6241. Did they get good catches?—They did, very good catches.

6242. Principally what?—Plaice, sole, and turbot; that was in Clew Bay. Then there were some trawlers working off the Galway Bay, but both of those places have been closed now against steam trawling.

Mr. Pinkerton.

6243. How long is it since those bays have been closed?—This time twelvemonth I held an inquiry at Westport and Achill, and the bye-law was made then, closing Clew Bay, but it did not pass the Privy Council until about Christmas, I think, or after Christmas.

6244. Is it in operation at the present moment?—It is in operation at the present moment.

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Mr. Pinkerton—continued.

6245. I am surprised to hear that, because I have complaints every day about steam trawling in Galway Bay?—There has been only one trawler recognised inside Galway Bay this year; that was a boat called the "Birda." We communicated with the owners about her having gone there, and their explanation was that she had not been trawling in the bay, she had been trawling outside the limit, but an accident happened to her engines, and she came into Galway Bay.

6246. It is only about a month ago I had an application from the harbour commissioners for a gunboat to prevent illegal trawling inside the limit?—I have been cruising in Galway Bay since February; I have been backwards and forwards up and down the bay, very often every two or three weeks since February, and I have not seen any steam trawling in Galway Bay, and I know of no steam trawler seen there except this one boat.

6247. Are there sailing trawlers there?—Yes, there are sailing trawlers.

Chairman.

6248. Is it the fact that there is a fishing ground off the coast of Donegal where the general rule as to the coast deepening down very quickly does not prevail?—Yes, right away north; from Horn Head and Tory Island you go right away to the Hebrides, and you can carry 50 fathoms nearly the whole way. That is a great fishing ground, but the best trawling ground there would be almost out of sight of land.

6249. Mr. Singe gave evidence to that effect, and suggested the formation of a harbour at Cruit Bay?—Yes.

6250. Do you know Cruit Bay?—I do, very well.

6251. Is that off a considerable fishing ground?—Of course there are different classes of fishing ground. There is a great cod and ling fishing ground off all that part of Donegal, but immediately off that part of Donegal the ground is very rocky and broken, and there is no trawling ground there.

6252. Mr. Singe told us that it was particularly suitable for trawling, and that the men would catch great numbers of all sorts of flat fish there?—Of course off Tory Island and about 30 miles north of it steam trawlers could work, but if they did they would go to Fleetwood with the fish and land it there. They would never make use of any other harbour. They come and fish, pack up their fish in ice, and as soon as the cargo is ready they go to Fleetwood with it. They very rarely land at all, even to buy tobacco.

6253. Then would you be of opinion it would be of much use to form a harbour there for fishing purposes?—I know that Mr. Singe is very keen about that harbour, and we would be very glad to see that harbour built. There are harbours on the west coast of Ireland that are very good harbours for fishing boats, and where there are fishing grounds outside.

Commander Bethell.

6254. Natural harbours?—Yes, natural harbours, and where no fishing has developed, so of course it is a question whether by building a harbour we should develop a fishing.

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6255. Is

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[Continued.]

Mr. Buchanan.

6255. Is this ground Mr. Singe mentioned being fished now?—Only casually. A steam trawler will come occasionally, but not on that ground off Cruit or within 30 miles of it; but further north of Sheep Haven and north of Sheep Haven an occasional trawler works.

Chairman.

6256. Now, as to Galway Bay; is trawling prohibited in Galway Bay at present?—Steam trawling is prohibited.

6257. Over the whole of Galway Bay, do you mean?—Yes; and outside Aran Islands from a line joining the Connemara coast with the North Light of Aran and the Hag's Head.

6258. How long is it since you passed the bye-law prohibiting steam trawling in Galway Bay?—Two years.

6259. Has there been any difficulty in enforcing that bye-law?—None; the only breach of it we have heard of, which has been reported to us, was the case of the steamer called the "Birda"; we wrote to the owner of it. He investigated the case and reported to us that his steamer was not trawling in the bay, but that some accident had happened to her machinery, and she came in merely under the shelter of Black Head to repair damages, so we did not prosecute her.

6260. There is also a great complaint by the Claddagh fishermen against the sailing trawling that goes on from Galway, is there not?—There are nine or 10 sailing trawlers in Galway Bay, and it is just one of those small efforts to develop the fishing which ought to be fostered, I think, rather than put down. We are constantly hearing of the necessity for large boats on the west coast of Ireland to carry on the fishing. If large boats are debarred from trawling they must give up the trade altogether, because there is nothing else to support them all through the year except trawling.

6261. We were assured that the Claddagh fishermen had fallen in numbers from something like 3,000 to somewhere about 300, and that entirely in consequence of their being so much interfered with in their operations by these trawlers fishing from Galway?—I think there are other causes for the diminution of the population of the Claddagh, besides the trawlers.

6262. Will you tell us, then, what is your opinion of the cause of the depopulation of the Claddagh?—I should like to see the Claddagh men fishing for mackerel with us at Aran, and making a lot of money in the fishing in the spring time. In Galway Bay the congested districts board have opened up the mackerel fishing with very considerable success. Last year I went there before the actual commencement of the season, and we tried for mackerel off Aran Islands. We used to shoot our nets 20 miles off the Aran Islands, but it was not until the 6th of April the fish came in. The Claddagh men prognosticated there were no fish off the coast at that time of the year, and they were greatly surprised when they saw us bringing up 9,000 mackerel in one night, and this year there was killed four times as much mackerel as last year. The Claddagh men have not awakened to the importance of fishing for these

Chairman—continued.

mackerel. They fish in the most inefficient way. They go out in little hookers when the herrings are on the spawning ground, set their nets all in a cluster, and only when the herrings are actually spawning at the head of the bay. There is an objection, I think, on the part of the Claddagh men, to make any move that cannot be adopted by the whole of the Claddagh men simultaneously. Therefore, it is very difficult to do much for them.

6263. Do you think that they have been much interfered with by the operations of the trawlers in Galway Bay?—I cannot see how they have.

6264. Have you had any complaints from them with regard to the destruction of their lines by the trawlers?—There have been any amount of complaints from time immemorial, I may say, between these trawlers and the Claddagh fishermen; but the matter was investigated by my late colleague, Sir Thomas Brady, who made a most elaborate set of experiments in Galway Bay, as to the destruction done by these trawlers. a great many years ago; but there was nothing then to lead him to make a bye-law against them. I think his action in the matter was quite right, and I say that nothing has happened since to alter the case, and so far as I am concerned I would be very sorry indeed to limit any enterprise like the Galway trawlers. I would like very much to see the Claddagh men provided with better boats, and fishing themselves on a larger scale than they do.

6265. Have you any reason to give for the great diminution in the number of the Claddagh men?—I do not think I have. Of course, railway traffic and steamboat traffic has revolutionised the supply of fish to a very great extent, and it is possible that their market long ago may have been better locally than it is now, because the railway traffic has made a great change in the price of fish and the possibility of getting supplies from other places.

6266. Is it possible, do you think, to make regulations which would enable the Galway trawlers and the Claddagh fishermen each to carry on their own process of fishing without interference with one another, and without giving rise to these quarrels that so frequently take place between them?—Several lines have been suggested that might be drawn across the bay, and prohibiting the trawlers coming inside those lines. It is possible that some limitation upon the trawlers might be of some benefit to the Claddagh men. I think the thing is conceivable.

6267. I suppose you would agree with the proposition that one of the great difficulties we have to deal with generally with regard to fisheries is to enable the different classes of fishermen to carry on their work without interfering with one another?—Yes; and that has guided us in making our bye-laws with regard to the sea fisheries all round the coast, more than anything else. The reason we put the steam trawlers out of Clew Bay was because they interfered with the local men carrying on the industry which they had been in the habit of carrying on with long lines. It seemed to be a pity to stop the enormous supply of food which was being caught within that bay by these steam trawlers for the

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Chairman—continued.

sake of a comparatively very small fishing, but we looked upon it in the light that these poor fishermen living round the bay were dependent upon the bay for their livelihood, whereas the steam trawlers could go elsewhere. That has actuated us in making a great many of the bye-laws. But here it is a question of fishermen all from the same place. The men on board these Galway trawlers are half of them Claddagh men, and men from the very same town, and we have had the thing threshed out so often, that we do not see our way to tying up one man's hands, and letting the other man's hand be free.

6268. Are there any particular points upon which you can speak with regard to further knowledge in connection with the Irish fisheries?—Yes. There are several points where further scientific observation and investigation would be very important. One is with regard to mackerel. The mackerel is probably the most valuable fishing.

6269. What do you say with regard to scientific investigation?—First, as regards mackerel, before we make any restrictive legislation with regard to the protection of mackerel, we must know whether we are dealing with one species of mackerel on the Irish coast, or two, and that is a question which I think ought to be settled definitely, and that can only be settled by continued scientific investigation over 12 months, at all events.

6270. Are there any other points you wish to speak about?—That is the chief one. We have investigated, to a certain extent, the migration of flat fish, plaice, sole, and turbot; I think we have proved definitely that the migration is of a very limited character, and that these fish do not go out into the great depths of the sea. It is a question whether certain fisheries might not pay if they were tried, and I have asked some of the owners of the steam trawlers to try the deeper grounds off the Irish coast, and let the inshore grounds alone, that is down to 200 fathoms. I have been trawling myself out to 750 fathoms off the Irish coast, and we get fish all the way out. We get fish in large takes at 500 fathoms, but a different class of fish from those that are generally supplied to the market.

6271. I rather gather from the general drift of your evidence that you are personally against placing restrictions on the fishing?—Distinctly so.

6272. Do you think, so far as possible, the fishermen should be allowed each to follow out his own method of fishing as freely as possible?—I think so.

6273. Would you be in favour of putting any restriction on the sale and landing of immature fish?—At the present moment there is a burning question on that subject, and we have reported to Government upon it.

6274. Upon what particular fish is that?—With regard to the mackerel and herring fishing on the south coast of Ireland.

6275. But not with regard to any of the flat fish?—No, not to any of the flat fish. I do not see any destruction of flat fish going on of sufficient importance to legislate about it. There is one thing, however, which should be considered, if any legislation was adopted with regard to flat fish, that is, the relative destruction of small fish

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Chairman—continued.

by the otter trawl and the beam trawl. Now on the Irish coast we have a number of boats fishing with the otter trawl, and they cannot kill small unmarketable fish at all to the same extent as the beam trawl, because an otter trawl cannot fish for an unlimited period. It must be hauled up in about an hour, otherwise the two ends will close together, and it at once ceases to fish. Whereas the beam trawl is left down for six hours, and can take up a great load of fish which are to a great extent dead when they come up. The otter trawl is used largely on the south and north coasts of Ireland. Within the last week I saw eight boats trawling with the otter trawl. Some of the boats that engage in the mackerel fishing in the spring take to pole and otter trawling in the summer, and thereby manage to make a livelihood, but to abolish or to make any law which would abolish trawling in territorial waters off the Irish coast would be to abolish the industry altogether, and check local enterprise.

6276. Have you any suggestions at all to make with regard to legislation, which you think might be useful?—I have not in the face of this, that we have powers already, as fishery inspectors, to make bye-laws where we see there is reason to interfere, in the territorial waters.

6277. Is there any other point you wish to bring before the Committee?—I have a few figures which I have put down here. Since the Congested Districts Board was started, we have been trying to develop the fishing on various parts of the coast where it had not been profitably worked before, and with regard to the mackerel fishing off Galway Bay, where the spring mackerel had not been fished before. We got in 1892 284,180 mackerel, and sent them across to England, and this year, 1893, we have killed 537,387. Besides that, an English firm started this year, at the Aran Islands alongside us, and they sent away about twice as much as we did, so that a large mackerel fishing has been started off Galway Bay within the last two years. The amount of money that was actually paid to the fishermen for the fish in those two years was 5,416*l*. Then besides that, we have opened curing stations at a number of places on the west coast, and have been able to cure cod and ling very successfully, both as regards numbers, the amount of money we pay to the fishermen and the sales for the fish afterwards.

[The Table was handed in and is as follows:—]

CONGESTED DISTRICTS BOARD FOR IRELAND.
QUANTITY of FISH caught at the Board's Stations.

Kinds of Fish.	Number in 1892.	Number in 1893.	Total Number.	Money paid to Fishermen.
Mackerel -	284,180	537,387	821,567	£. 5,416
Cod -	-	68,617	68,617	992
Ling -	-	30,480	30,480	719
Salts -	-	12,333	12,333	95
Herrings -	37,350	24,600	61,950	61
Haddock -	9,929	7,020	16,949	71
Whittings -	29,633	-	29,633	38
Miscellaneous -	-	35	35	-
Totals -	361,092	680,472	1,041,564	7,392

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6278. It

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[Continued.]

Commander *Bethell*.

6278. It is paying, is it?—It is paying for those who go in for it on a sufficiently large scale. That, of course, leads me to think that all that is necessary for the development of the Irish fishing is to organise the dispatch. When the dispatch is organised the men would very soon catch the fish. The railways which have been made are, of course, very beneficial, and if more of them were made it would be the best thing possible for the industry.

Mr. *Pinkerton*.

6279. I understood you to say that the Manx men complained of the trawling disturbing the spawning ground of the herrings, do you agree with that opinion yourself?—I do not know enough about it to say whether that is a true Bill or not.

6280. Off the County Down coast at Ardglass and Kilkeel, I suppose there is no falling off in the catch of fish, is there?—The fishermen complain of a falling off of herrings there.

6281. Can you attribute that to any cause, or do you not understand why these shoals migrate from one district to another?—I am afraid not.

6282. Do you know the district round Lough Foyle?—Yes.

6283. Have you had any complaints of the killing of the codlings there, and the great quantities of immature codfish caught there?—Yes, I have heard of it, but I have not seen it going on.

6284. One of the reasons you give for the falling off in the mackerel fishing on the south coast is the autumn fishing, is it not?—I have only thrown that out as a suggestion.

6285. Would you be in favour of a close season during the autumn, and stopping all fishing during the autumn season?—I would not, because it is of the very greatest possible advantage to the people, and unless we are certain upon the point, I think we should not interfere. Without the scientific investigation I referred to before, I think, we should make no attempts at legislation as to the spring and the autumn fishing. We must be certain we are dealing with the one species of fish, and we do not know that at present.

6286. You mention the fact that the fishermen were in the habit of letting out the small mackerel from their nets?—That was only an instance.

6287. Evidence has been given to the effect that mackerel were such delicate fishes that if they touched the net they were sure to be killed?—Yes, if they touched a drift net, but if they were inclosed in a seine it would be a different thing. If the men see they have a lot of small mackerel and open the net they go away untouched. Mackerel striking against a drift net might be killed.

6288. You explained the nature of the grounds off the County Down coast as being rough, and that there could be no trawling there to injure the spawning beds, did you not?—Not where I saw the fish spawning.

6289. And you also said off the Isle of Man the ground was somewhat of the same character?—Yes.

6290. Can you describe the nature of the

Mr. *Pinkerton*—continued.

ground in Galway Bay?—Yes; Galway Bay is inclosed by the Aran Islands, and with the exception of a patch of rough ground inside the Aran Isles the whole of it is sand.

6291. Is it a favourite spawning ground for a great number of fish?—I think the herrings spawn off the Island Eddy, and at Black Rock on rough ground where the trawlers cannot go. The place where I see herring boats fishing for herring in the autumn when the herrings are actually spawning is near the Black Rock, which is very rough ground, and it is there the herrings spawn.

6292. Do you attribute the falling off of the population of the Claddagh to different causes than the trawling in the bay?—I think so.

6293. But, of course, you are well aware that the fishermen get a very much better price for their fish now than they did in the days when the Claddagh was a prosperous fishing community, are you not?—They get a good price for their herrings when the amount caught is limited.

6294. I suppose three times as much as when the Claddagh was a prosperous community?—Yes.

6295. Then how can you account for the industry falling through when the men are getting three times the price for the fish if there is not some other cause at work; I quite agree with you, and do not wish one part of the community should be benefited at the expense of the other, but I wish to see if both these industries cannot work together; would you be in favour of extending the territorial limit?—That is, exclude trawlers from Galway Bay?

6296. Yes?—That might be an advantage. It has been before us ever so often, whether we would do it or not. It has been gone into very very carefully by my predecessors, and we have an enormous pile of evidence in the office about it, and various lines have been suggested for closing the bay, but very often the lines which we think might be possible, the Claddagh men consider insufficient. At the same time, I see the Claddagh men fishing myself with lines near the Aran Islands, where the best fish is to be had. They fish there for gurnet all round the whole bay. They are not interfered with by the trawlers at all. They get 1*l.* a hundred for their gurnet up in Galway, they are able to fish for their herrings on the ground which they like, and there is a bye-law in existence to protect them; while herring fishing is going on a trawler must not come within three miles of them. Those laws are all in existence for the protection of the Claddagh men.

6297. Have you ever heard complaints with regard to the trawlers disturbing lines and nets?—Not much in Galway Bay. Of course there have been one or two instances of it, perhaps one in 12 months, and we hear of it if anything of the sort occurs, very soon.

6298. Would you be in favour of a proposal to close the inner bay against all trawlers, steam and sail?—I think it would be crushing one industry. Outside the Aran Islands it is too rough for the sailing trawlers to go and trawl habitually. Furthermore, the fish come in from outside the Aran Islands, and are in the bay for more

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[Continued.]

Mr. Pinkerton—continued.

more than half the year, and are not to be caught outside the Aran Islands then. The fishing season outside the Aran Islands is in the Spring, after which the fish leave outside and come in. There are no fish during the summer months outside worth trawling for, and these boats would be laid up just in the time of year when the weather is fine enough for them to fish. I think any limitation upon the trawlers at the present moment in Galway Bay would be to crush them, and wipe them off the face of the earth.

6299. The extension of the territorial limit would not have that effect, would it?—If you put them outside the Arran Islands that kills them. If you put them half way out to the Arran Islands you may do the Claddagh men some small advantage, but you would do the others a great deal of disadvantage. It is quite possible that a line from the Black Rock across to Ballyvaughan would be of use.

6300. You say you have established curing stations along the West Coast, will you kindly mention the places?—Beginning at the north at Downing Bay, in Sheep Haven and Tory Island, Inishcoo in the Roses, Inishmain, Malin Beg, Teelin and a place called Cladnageragh. Then going south from that, Inishbofin and Slyne Head. That is the lot.

6301. Do you know Barna?—Yes.

6302. Do you know that nice little fishing harbour there?—Yes, I do.

6303. How do you account for the entire failure of that as a fishing ground; it must have entailed a considerable expense on the Government to construct that harbour, must it not?—Yes. My experience, of course, of Galway Bay, is only for four years.

6304. I thought possibly you have visited this place?—I have.

6305. There is not a single fishing boat there, is there?—Except a couple of hookers that have gone to rot and some curaghs.

6306. With regard to the question of immature fish, you do not consider, I understand, that Ireland has very much to do with it, do you?—I do not.

6307. With regard to improving the methods of despatching fish to market, what would you suggest?—On the west coast of Ireland the best despatch can be provided by railways because the distance round by the north coast or south coast is so very long that it pays better to send the stuff by rail.

6308. How do you send your fish from the Arran Islands?—We send our fish to Galway by steamer, and then a special train from the quay at Galway to the North Wall, where it is put on board the steamer and sent across to Manchester, Birmingham, and all those places.

6309. Do the Midland Railway supply you with sufficient accommodation in that respect?—Ample; and the Midland Company are most helpful and obliging in every possible way. The English firm or syndicate which came and worked at Arran this year, said they never got any better accommodation from any railway company. There were two steamers left Arran every day this year during the fishing with fish for Galway.

6310. Are those curing stations you mentioned self-supporting at the present time, or dependent upon Government help?—Some of them are quite

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Mr. Pinkerton—continued.

self-supporting. Three or four of them are not self-supporting yet, but we hope they may be, and if we cannot make them self-supporting we must give them up.

Mr. Robert Price.

6311. I notice you have prohibited steam trawling, though you have not prohibited sailing trawling; is that because steam trawling does so much more harm?—It is much more destructive to the fish. In some cases all trawling has been prohibited.

6312. And I suppose the steam trawlers are most of them foreign craft so to speak; there are very few steam trawlers belonging to Irish owners, are there?—Very few.

Mr. Buchanan.

6313. Are there bye-laws against trawling on many parts of the Irish coast?—There are.

6314. Most of it?—There are a number of bays that are prohibited. Some are prohibited from all trawling, some against steam trawling only.

Mr. Robert Price.

6315. Do you mean that steam trawling is more destructive because it simply catches more fish, or because it does harm in other ways?—Well, it catches more fish.

6316. Have you had anything to do with any hatcheries?—We have not. When we were investigating the fishing grounds off the west coast of Ireland, Mr. Holt was my companion on board as naturalist.

6317. Mr. Holt from Grimsby, you mean?—Yes; before he went to Grimsby he was with me for two years, and we had a small hatchery on board, and we hatched out most of the food fish on board our steamer during that time. I have seen all the young fish hatched out, but we have not hatched with the view to replenishing the sea.

6318. Do you think that process is of any value for that purpose?—Hatcheries on a large scale?

6319. Yes?—I think they would have to be on a very large scale to make the slightest difference in the supply of the sea.

6320. Are there any suitable places in Ireland for rearing the fish as well as hatching them?—There are places no doubt where sole and valuable fish of that sort might be reared, and if any hatching is to be done I think it would be only with regard to such valuable fish as sole and turbot, that there would be any chance of its paying.

Commander Bethell.

6321. I understand that you are not prepared to say that any legislation is required at all as far as Ireland is concerned in the matter of the fishing industry?—At the present moment we have reported to Government with regard to a small bit of legislation which we did think was necessary, but it is very difficult to carry it out, and there are qualifications which would have to be considered, most difficult to adapt to any Act of Parliament that might be planned. With the exception of that I really do not see where Parliament can interfere where we have not already the power to make a bye-law, and if we saw a reason for it strongly we would make the bye-law as we have done in a great many cases.

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6322. I

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[Continued.]

Commander *Bethell*—continued.

6322. I remark that you say that the Irish Fishery Board has made bye-laws to protect fishermen in special localities?—Yes.

6323. That is the policy of the Irish Fishery Board, is it. I mean to say if there is a bay or a portion of the coast which, long-shore fishermen have been in the habit of using for a considerable time, then the Irish Board would interfere to prevent large boats coming from a distance to work that fishing ground, and, so to speak, rob the shore men of their livelihood?—Not merely from that point of view, unless we thought at the same time that the new kind of fishing was carried on on such a scale as to deplete the bay of fish.

6324. Just so. If the outsiders come in in such a manner as to destroy the livelihood of the people who are living there, then the Irish Fishery Board's policy is to exercise its powers to prevent them, is it not?—Yes, if we thought that the new fishing was of such a character as to endanger the fish supply not only for the local fishermen but for the general public.

Mr. ARTHUR DAVIES BERRINGTON, re-called; and further Examined.

Commander *Bethell*.

6327. DID you hear the question I put to the witness, Mr. Berrington?—I did.

6328. It seems the Irish Fishery Board have the power to exclude the outside fishermen from intruding upon the grounds, say of shore fishermen; I wanted to ask you whether the English

Commander *Bethell*—continued.

6325. But is it the policy of the board to protect the local fishermen against outsiders?—No, we consider the two things always. We consider the area, we consider if the new fishing is of such a character as likely to deplete the bay, and we consider how far the new fishing is interfering with the local fisherman, who is dependent on that bay for his daily bread.

6326. Have the Irish Fishery Board a power to keep out other fishermen solely on account of protecting shore fishermen?—We have the power to make a bye-law on those lines if we choose, and the Privy Council might ratify it or they might not, but we are very careful when we legislate against one class of fishermen not to apportion the fish between one class of fishermen and another, but to protect the fish of the bays from being destroyed.

Commander *Bethell*.] I should like to ask Mr. Berrington, who is in the room, a question upon this point.

Commander *Bethell*—continued.

Fishery Boards also have that power?—No, they have not that power except where a stranger may use a different instrument.

6329. That is all, is it?—Yes.

6330. They have no power of exclusion, have they?—No, not to exclude them as persons.

Mr. WILLIAM SPOTSWOOD GREEN, re-called; and further Examined.

Witness.] I HAVE been very careful in saying that we do not act upon the principle of legislating for one class of fishermen against another, but we take into consideration whether the new class of fishing is likely to deplete the bays. We take the two things into consideration, and probably that is one of the causes that has hindered us from acting with regard to these Claddagh fishermen. We do not consider that the six, or seven, or eight trawlers that are trawling Galway Bay are in the smallest degree endangering the supply of fish in the Bay.

Commander *Bethell*.

6331. I should like to ask you a question or two with reference to harbours; I gather from your evidence that you are of opinion that there are many natural harbours on the coast of Ireland very suitable for fishing purposes, are you not?—Yes.

6332. You do not consider, do you, that there is any real or urgent necessity for expending large sums of money in making harbours and piers and that sort of thing?—I think that money may be expended in providing piers for the landing of fish, but the most useful way would be to spend it in providing means of communication with the existing harbours.

Commander *Bethell*—continued.

6333. That is to say the harbours would be a luxury rather than a necessity?—Yes; until the means of communication with these harbours is established.

6334. It is not the most desirable thing, is it, at present?—No; the communication is the most desirable thing.

6335. With reference to the curing-stations, of which you were speaking, how is the communication to be carried on with them; I suppose you communicate with Tory Island by sea, do you not?—The fact of curing the fish gets over the difficulty of despatch, because we do not require quick despatch; for that we can take our time.

6336. Is it done by special steamers?—There are steamers which pass Tory Island, and can call there and land, and take away stuff by special arrangement. There are certain places where more harbour accommodation seems to be necessary. At the Arran Islands, for instance, the boats that assemble there now for the mackerel fishing, for the last two years, have no shelter; they cannot all get behind the pier that is there, and there are numbers of cases where fishing is being carried on under adverse circumstances for want of some small accommodation, but if any large sums of money were being expended they would produce a much better effect

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[Continued.]

Commander Bethell—continued.

effect by being expended upon railway communication than upon anything else that I know of.

6337. Does the Congested Districts Board give any assistance to people in the matter of boats?—Oh, yes. And the Irish Fishery Board has for a great number of years, for about 40 years, been making loans to fishermen; more than half the boats on the Irish coast have been purchased by loans from the Fishery Board. With regard to the Congested Districts the loans that were administered by the Fishery Board have been transferred to the Congested Districts Board.

6338. You said in your evidence, I think, that on the north-east coast the boats were not so numerous as formerly, because they got worn out and were not being replaced?—Yes.

6339. Have the people no means of replacing them on such a system?—I think the fishing having fallen off, the men did not feel that they could look forward to paying the instalments, and so they have not gone in for the loan.

6340. That is at the part where you say the fishing has fallen off, I suppose?—Yes. There are some places up near Belfast Lough where the fishing has advanced, and where new fishing-boats have been built.

6341. Taking a general view of Irish fishing during the last 10 years, is it your opinion that upon the whole it has improved, or that it has depreciated. Can you give us any opinion upon that?—The statistics show that there has been very little change.

6342. And not much change in the method of fishing, has there?—Not much; except in the advance of the mackerel fishing in the spring round the west of Ireland, further than it used to be.

6343. You said it was necessary to make investigations for a year or two with regard to the mackerel, in order to determine whether there are two species of mackerel?—Yes, probably.

6344. Are there any indications that there are more than one species of mackerel that inhabit the Irish Sea?—Yes. The movements of the mackerel, the life history of the mackerel, has

Commander Bethell—continued.

not been worked out completely. The big spring mackerel which come in and which are so valuable, come in about the 1st of April now. They used to come in earlier, about the 17th of March, but now they do not come in before the 1st of April, and when they appear first they generally appear close to the shore, having come in from the deep sea. Then when that mackerel fishing is over, there are schools of smaller mackerel come in in the autumn; they grow to very nearly as large as the spring mackerel by about Christmas time, and they form a very valuable fishing. Then they vanish off the coast in January or February. Then there is a blank for a while, and then the spring fish come in all full of spawn.

6345. Is there any reason to suppose these are different sorts of fish?—Well, we do not know that they are the same, that is all.

6346. *Primâ facie* they are the same fish, are they not, under different conditions?—Yes.

6347. You have no reason to suppose they are different, have you?—Well, Dr. Günther is of opinion that there is sufficient evidence, at all events, to doubt the fact of its all being one species, but with him it is only a suspicion.

Mr. Buchanan.

6348. With regard to your power of making bye-laws, as I understand, you have closed Galway Bay for a considerable distance outside territorial limits, to steam trawlers?—No, not outside the territorial limits. You see the Arran Islands lie across the mouth of Galway Bay, and the territorial limits would lie three miles outside the Arran Islands.

6349. Have you any powers of closing Galway Bay outside the three mile limit against any kind of fishing?—That is a legal question, and the Act gives us power to close certain areas. There is in the Act something about enclosing "other defined areas" which may mean outside territorial limits, but we have not attempted to define any areas outside territorial limits. The protection of line fishermen against trawlers in extra-territorial waters might be a subject for further legislation.

Thursday, 13th July 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Major Jones.
Mr. Kearley.
Mr. Mallock.

Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.
Dr. Tanner.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. JOHN FREELAND, called in ; and Examined.

Chairman.

6350. HAVE you been appointed by your fellow fishermen of Torry to give evidence with regard to the condition of the fisheries on the east coast of Scotland?—Yes.

6351. Are you much affected by the work of trawlers in your district?—Very much ; I believe more so than in any part of Scotland.

6352. Will you tell us something about the practice of trawling as it is carried on on your grounds?—To commence with, I may tell you I had no expectation of being called to give evidence or I might have been prepared to give figures, but you know it is not a general thing for fishermen to be posted up with figures ; so I will answer any questions to the best of my ability. You are aware that trawling is carried on indiscriminately all the year round, including the Sabbath also. There is no respect paid either to immature fish or to spawning beds. That being so, we believe it is due to the fact that there is almost no restriction upon trawlers that there is such a decrease in the white fish on the east coast of Scotland.

6353. Of course it is all steam-trawling off your coast, is it not?—Yes.

6354. Do those trawlers principally work from Aberdeen, or do they work also from the south?—All from Aberdeen now. They have gone over the ground until there is nothing to work for, and of course they have had to shift their grounds ; I may say that a few months ago there were a good few fish got seven or eight miles off ; we, small boats, went there for a very short time, and the trawlers found out there were a few fish there, so they came amongst us, and in a few days the grounds were cleaned.

6355. You fish with the line in the winter months and fish for herrings in the summer months, do you?—Yes.

6356. Do you fish entirely from Torry?—Yes.

6357. You do not go to Aberdeen and Peterhead and other places to fish in the herring season, do you?—No. We fish all the year round from Torry, we land all our fish at Aberdeen fish market.

Chairman—continued.

6358. What is the size of your boats?—They vary from 24 feet to about 32 feet on keel.

6359. What is your usual crew?—Four in the small boats and five in the large boats, that is the line boats.

6360. Trawling has been forbidden now in Scotland in the territorial water, has it not?—It has, but I am afraid the law is very much a dead letter.

6361. Do you find the trawlers come within the three-mile limit?—Very often ; they have not been for a spell back because there has been nothing to catch there.

6362. Have you ever been on board a trawler?—I have been on board a sailing trawler, not a steam trawler.

6363. Have you any knowledge of what the steam trawlers catch off your coast?—They catch all sorts of fish ; plaice, haddocks, whiting and soles, and so forth.

6364. Do they catch many small immature fish?—A great quantity.

6365. Have you seen that with your own eye?—Not with my own eye, but I have a cousin who sailed with them for a time, and he told me that his heart was sore when he had to take a shovel and shovel them overboard.

6366. They do not land them, do they?—No, they do not land them.

6367. I suppose these trawlers take all their fish to Aberdeen to sell, do they not?—Yes.

6368. They do not land them at Torry?—No ; as a general rule they are all landed at the Aberdeen fish market.

6369. What distance to sea do you go from Torry as a rule?—As a general rule we go about 10 miles ; sometimes further ; but taking it all through it would be from five to 10 miles.

6370. Your first point is that the system of trawling is a very destructive one, and that it kills the fish, and your second point is that it kills a great quantity of small fish. Do you think it has any effect in the way of breaking up shoals of fish, and preventing them coming into the ground where you fish yourselves?—Of course

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MR. FREELAND.

[Continued.]

Chairman—continued.

course if they kill the small fish they cannot lie upon the ground.

6371. Do you think that the trawlers working outside the three-mile limit have any effect on the fisheries within the three-mile limit?—I do.

6372. In what manner?—Because they cannot get in. I think the three-mile limit is too little ground to work upon.

6373. Tell me what remedies you would suggest to meet this state of affairs?—I would suggest that power should be given to fishery district committees to communicate with the Fishery Board to keep trawlers and line fishermen too, off certain grounds where large quantities of these small fish lie for a time.

6374. Would you advocate the closing of certain portions of the sea?—Yes, for a time, as far as the Committee may think expedient to do so.

6375. For how long would you close them?—I would leave that for the district committees; if they were practical men they would know the time.

6376. Do you mean that for so many months in the year you would have a close time?—There is one thing I might mention about it. Haddocks commence to spawn about the 1st February, and spawn on up to about the 15th March, and at the spawning season hook-and-line fishermen take very few of them, because they are in a sickly condition, and do not take the hook; but that is the time the trawlers do take them, and I think trawling should be prohibited from the 1st February to the 15th March. A hard and fast close time would not meet the case of immature fish, but from time to time as found necessary.

6377. Would you also prohibit line fishing during that time?—No; line fishing is not destructive at that season, and would require to be prohibited for the protection of immature fish only.

6378. You said you thought the three-mile limit was too small; have you any suggestion to make as to any extension of it?—My opinion is that 10 miles is little enough.

6379. Would you like to see it extended to 10 miles?—Yes.

6380. That would require a convention with foreign Powers, would it not?—I am aware of that.

6381. But if it is already difficult to enforce regulations within the three-mile limit, how would they be enforced in the 10-mile limit?—You would have to have better sea police; in fact the system is inadequate at the present time for protection.

6382. Have you ever considered whether it would be possible to prohibit trawling altogether?—My opinion is that if trawling be carried on to the same extent as it has been for some time, and under the same conditions, it will work its own cure, both for line fishermen and trawlers too. I can tell you this: when you sat at the Royal Commission, and I was examined before you, to my knowledge there were 35 trawlers trawling in the Bay of Aberdeen, and there is only one of these 35 now trawling at the present day. They have nothing but large steamboats, and I think it is about nine months ago they fell in with a bank about 200 miles east of Aberdeen, where they got plenty of haddocks; in fact they had 200 boxes, and more, for a week's work: and one trawl-owner told me, "We have found a remedy to

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Chairman—continued.

protect the line fishermen." I said, "What is that"? He said, "We are going far out to sea for fish, and shall not disturb you"; and I said, "Do you not think, even as far as 200 miles off, you will make the fish scarce as well as inshore. It may take a long time to do it, but it will be done all the same." Well, it only lasted for a little over three weeks, and the game was played out. Their next move was to go to Faro, and they have now extended to Iceland; I do not know where they will go to next.

6383. At any rate, to a certain extent, they interfere less with you now; they go those long distances, do they not?—No, they do not interfere; but if, as I say, the fish be taken and destroyed off the shore they cannot get to the inshore.

6384. I suppose you have no steam liners at Torry, have you?—Yes; there is a good number of the Torry fishermen who go out in steam liners, but I may say I could not give very much information as to that, because it is only in its infancy, and they only resorted to them when they found the other liners were a failure. It being in its infancy, I could scarcely give much evidence upon it.

6385. Can you tell me whether these steam liners get good catches?—Sometimes; some men have done very well with them, and some have done nothing.

6386. How many steam liners have you got at Torry?—There are none in Torry; but they are lent by the owners, and the men simply go in them.

6387. Are there three or four who fish from Torry, or how many?—There are a dozen I believe. I am not quite sure of the exact number, but there are about a dozen.

6388. Have they had pretty good catches?—Some have, and some have not.

6389. Have they done better than your own sailing boats?—Certainly, they must do that, because they can haul the lines in any sort of tide, which an ordinary boat cannot do.

6390. You have found fault with the way in which the regulations are enforced now at sea, have you not?—Yes.

6391. Do you not think the regulations are sufficiently enforced?—No.

6392. Do you think that the sea police are satisfactory?—No; and another thing, I do not think they are strict enough in the penalties. If caught in closed waters their catches and gear should be forfeited. They simply encourage the men to fish by not inflicting sufficient fines. If the men get 50*l.* of fish for one night's dragging inside the three-mile limit they can easily pay a 20*l.* fine.

6393. What remedy would you suggest?—Swifter boats, and more of them.

6394. Do you not think, when Scotland gets District Fisheries Committees, each District Fishery Committee might institute a police of its own?—I am not sure about that; I believe it would go a long way to help us out of the difficulty.

6395. Do you not think these local bodies would be more able to enforce regulations in their own district than any central authority could do?—I could not say that. Possibly the management might be better.

6396. Do you feel any great want of harbour accommodation?

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Mr. FREELAND.

[Continued.]

Chairman—continued.

accommodation?—No; not about Aberdeen, but I know that it is greatly felt along the coast; for instance, at the several fishing villages along the coast they cannot use large enough boats to proceed to the fishing grounds in the stormy weather, because they cannot get into the harbours.

6397. Do you think the effect of improved harbour accommodation would be to enable the fisherman to use larger boats, and work more effectively at a greater distance?—Yes.

6398. Have you noticed in any special places within your own observation large quantities of small fish?—Yes, I have.

6399. Where, particularly?—I may say as far as the small boats are concerned, if the restriction was put upon the 10-mile limit that would nearly cover the whole. Of course, they would do damage outside that, but that is about the distance they go, and it would help a good deal if there was a restriction made of 10 miles.

6400. Do you see a great falling off in the catches of fish since you were a young man going to sea?—Yes; we have had bitter experience since you sat on the Royal Commission. I may say since the month of September 1892 until the present moment there is not a fisherman going to the fishing with hook and line that is fit to make a living if he has nothing else to depend upon; the fish have fallen off so very greatly.

6401. That is principally, I suppose, as to haddock and whiting?—Yes.

6402. You do not speak with regard to flat fish?—No, I do not speak much about them, though there is a great falling off in them.

6403. But still, that does not affect you, personally, does it?—We used to fish for flat fish in the months of February and March inshore, and we used to get great quantities of them.

6404. What with?—With the lug worm. We used to get great quantities, but we have tried this past year and we could scarcely get one at all.

6405. Do you attribute that entirely to the work of the trawlers?—My opinion is that there is nothing else to blame. I have no hesitation in saying that.

Mr. Buchanan.

6406. The great increase in the trawling has been since the Trawling Commission, has it not?—Yes.

6407. There are 20 or 30 trawlers now for everyone that there was before; is not that so?—I think there were about 30 or 35 at the time of the Royal Commission, and now I think there are 147.

6408. Do you find your fishing has continually gone down as trawling has increased?—Very much so; and here is a point to look at. It is often said that the statistics show that the fishing has been kept up, but it has never been taken into consideration what appliances are used for catching the fish. They have double nets, large steamboats, and, instead of fishing in the Bay of Aberdeen, as they used to do, they are now fishing from Iceland and Faroe, and 260 miles off Aberdeen.

Mr. Buchanan—continued.

6409. They can fish independently of the weather and the tide, can they not?—Yes, if it is not too bad.

6410. And Saturdays and Sundays alike?—Yes; I think that is a sort of thing that should be stopped. All sorts of fishing should be stopped on Sunday; it would save a great deal of friction along the coast amongst the trawlers and line fishermen too.

6411. With regard to the 10 miles, would that apply to most of the line fishing along the coast; is most of it within 10 miles?—A great deal of it.

6412. Do the trawlers come much within the 10-mile limit?—There is not much doing for them now; as I have said, within the 10 miles, there is nothing to catch.

6413. When they are seen within the 3-mile limit, where they are forbidden, is the fact notified to the Fishery Board?—Yes; I have sent word myself to the Fishery Board two or three times when I have seen them there. I have seen them very often trawling inside the limit during the night; at daybreak they would go to sea.

6414. You did not get their numbers, did you?—No, it is impossible for sailing boats to catch them. We went down on one, one day, and he had no lights up; we showed no lights, and we were almost down upon him, when he steamed away right through the wind and we could not follow him.

Commander Bethell.

6415. He had his nets down, I suppose?—Yes.

6416. Then how could he get away?—He can go very fast with the nets down.

6417. Could he beat you with his nets down?—What, through the wind?

6418. Yes?—Easily; he could raise his net from the bottom and go very fast.

6419. May I take it that you are rather inclined to think that the sea in your locality is over-fished?—It was never known in all my experience for hook-and-line fishermen to thin the fish. For instance, we have caught shoals of fish in previous years at certain places, and we could have fished ever so long and never make any difference. Each day we went, day after day, we always got the same number.

6420. Are you inclined to think the sea, at any rate in your locality is over-fished at present?—Well, it is over-fished by trawlers I believe, but not by the line fishermen; I say that lines would never thin them.

Mr. Mallock.

6421. Do you know anything about how the statistics are collected in your locality?—I do not know; I think it is done by the Fishery Officer, and I do not think they are altogether very correct.

6422. Have you any reason for supposing they are not correct?—Of course the officer has only to go to the salesman and ascertain from the salesman what quantity of fish he has sold in the day. There are fish sold that the salesman knows nothing about.

6423. Is

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Mr. FREELAND.

[Continued.]

Chairman.

6423. Is there anything you would like to add to your evidence which you have not been asked about?—There is nothing that comes to my memory just now, except as to herring fishing. The fishermen in Torry are very anxious for a close time for herring fishing.

6424. What would be their idea of a close time?—They are not getting any remuneration for their work. One man sold 20 crans of herrings for 2s. 9d. per cran. It is quite true that is a cheap fish supply for the country, but at the same time if it goes on in that way fishermen cannot possibly subsist. They shoot from 50 to 60 nets each boat. Each net costs about 3l., and you cannot haul 20 crans of herrings without destroying some nets, so you see 2s. 9d. per cran does not allow much for destruction of nets. I think if the restriction were that no herring should be allowed to be brought in until the 10th of July, it would help the matter.

6425. What is the exact size of a cran?—Four baskets.

6426. What is the weight?—I could not say the weight. It is four baskets, and a basket measures 18 inches by 21 inches. They are not weighed, they are all measured. If something is not done with regard to the herring fishing, which is one of the best industries in Scotland it will be very serious.

6427. But the quantity of herring caught is not falling off, is it?—No; and my reason for that is this: that every fish is the herring's enemy. The trawlers destroy such an enormous quantity of fish that they have helped the herring in that respect; and, although they have destroyed the spawn of the herring, I think the quantity of fish taken has compensated for the destruction.

6428. Do you think, absolutely, the action of the trawlers has been to increase the number of herrings in the sea?—That is my own opinion, but it is only my opinion. I may be wrong about it.

6429. What period would you fix for a close time for herrings?—To the 10th July. Do not allow any one to take herrings until the 10th of

Chairman—continued.

July, except for bait. The boats in the spring of the year shoot nets for herring bait.

6430. Would you make that general all over the East Coast of Scotland?—Yes, I think it would be a great benefit to them; I would not allow them to take any for consumption.

6431. Would you stop the winter fishing then?—That is another consideration, is the winter fishing.

6432. When would you make your close time begin, from the 1st of June till the 10th of July?—From the 1st of June. I would prohibit any herring being taken during that time, except for bait.

6433. Do you think the effect of that would be to send up the price of herrings?—It would certainly give fishermen some remuneration for their work. I know a great number of men already who cannot renew their boats, nets and gear at the rate they have been carrying on for some years.

6434. As I understand, you make this recommendation not with any view of improving the fisheries of increasing the number of fish; but simply with the view of increasing the price that the fishermen would get for the fish?—Yes, of course. If the fisherman is forced to give it up there must be an increase of course in the price, and a decrease in the amount of fish caught.

6435. Do you not think a great many fishermen would object to that?—I am aware of that, but you know that fishermen are sometimes very obstinate, and there requires to be a hard-and-fast law before you can get them to do right.

6436. And they do not always do it then, do they?—Well, I do not know; it is not very often you can get them to think a thing is right even though it is for their own interest.

6437. Do you generally begin fishing at Torry before the 10th July?—There is no restriction; one may commence and then the others commence.

6438. Did you get many fish this year before the 10th July?—Yes.

6439. It has been a goodish herring fishing this season, has it not?—Yes, as far as it goes; but the fish are of an inferior quality of course.

Mr. WILLIAM PYPER, called in; and examined.

Chairman.

6440. ARE you very much interested in steam-trawling at Aberdeen?—Yes.

6441. In fact I believe I am almost correct in saying that you are the originator of that industry at Aberdeen?—Yes.

6442. What number of steamers does your company now own?—Ten.

6443. What is their size?—About 100 feet in length, 20 feet in breadth, 10 feet deep, and 50 horse-power.

6444. What tonnage would they be?—The net tonnage is a mere bagatelle, something like 20 tons.

6445. It is arranged that they should be registered at a low tonnage, in order to escape rates, is it not?—I do not know. If we have a boat of 50 horse-power, she requires a large boiler, and large driving power.

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Chairman—continued.

6446. But it saves you a good deal in harbour dues, does it not?—No; we do not pay by the ton; we pay by the voyage.

6447. Since when did you start this fleet of trawlers?—1882.

6448. Just before the time of the Trawling Commission?—Yes; a year before.

6449. Has the speculation been a successful one?—Yes; it has been satisfactory.

6450. Has it paid well?—The catch of the first trawler in the first year was 2,891l. That was an old tug-boat. Then the first new screw we built was in 1883, and her first year's catch was 2,356l., and her catch last year was 2,458l. The first year's work of the last boat that we built—a little more than a year ago was 3,605l. for the year.

6451. What were the principal sorts of fish you caught?—Haddock is about the largest.

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Mr. PYPER.

[Continued.]

Chairman—continued.

Last year we caught cod worth 10,151*l.*, ling worth 851*l.*, haddock worth 81,408*l.*, whiting worth 1,204*l.*, turbot worth 9,728*l.*, halibut worth 107*l.*, and soles and lemon soles worth 30,200*l.*

6452. You do not get many of the real sole, do you?—Very few. Then we caught plaice and brill worth 33,869*l.*, eels worth 20*l.*, skate worth 297*l.*, and other kinds of white fish worth 5,421*l.*, total 173,770*l.* Of that there would be upwards of 70,000*l.* worth of flat fish. This is for the whole trawling fleet at Aberdeen.

6453. Are the grounds that you fish on now, the same that you fished on ten years ago?—No; of course we were confined ten years ago.

6454. I was not speaking with regard to the three mile limit. Is it the fact that your trawlers do infringe on the three-mile limit?—Our instructions to the masters are not to do so; they are printed instructions.

6455. And so far as you know they do not do it?—They do run in sometimes, but it is against our instructions; we are not aware of it.

6456. But do you not think you ought to take a little more trouble to enforce those instructions?—It is a very difficult thing to do. I do not believe that the limit is infringed to anything of the extent that is stated. It is all very well to make a blunt statement, but I do not believe it is done to the extent it is said to be.

6457. After all it is not a very hard condition to put upon you when you have the whole of the ocean open to you that you should leave the three-mile fringe alone, is it, and surely your masters might, instead of seeing how near they can go to the three-mile limit, give it a wide berth?—So far as the three-mile limit is concerned, I do not think there will be any difficulty whatever. Going so close, they are liable to get amongst salmon nets and damage fishermen's lines, but it came to be a very serious matter when the Moray Firth was closed, being an area of 200 miles, and in point of fact an arm of the sea, and in some places 60 miles from the sea to the shore. It is a very difficult thing then to know exactly when you are in and when you are out.

6458. Surely not, it is easy to know when you are in the Moray Firth and when not, is it not?—But you are more liable to get in than when going along the coast.

6459. But I should have thought, taking the various headlands, you would have no difficulty in telling whether you were inside or outside of them?—We are out of sight of land altogether.

6460. But you would be in sight of lights?—By day you would not see the lights.

6461. But most of the trawling is done by night, is it not?—Yes; but at the same time it is not like a limit of 60 miles.

6462. I understand you object to that restriction?—Yes.

6463. Used you to catch a great many fish in the Moray Firth?—A great many.

6464. Do your boats go a long distance to sea; do they go to Iceland and the Faroe Islands, and so forth?—Two of them have been there once, but the fish do not bring a good price.

6465. Is that because they are a coarser class of fish?—Yes; they are a dark, big fish.

6466. They have grown big and gross?—Yes.

Chairman—continued.

6467. Where do you principally catch your fish now?—We used to catch a lot at Smith's Bank, in Moray Firth, now we go through the Pentland Firth, and round by the Sutherland coast, and there are several banks about 100 miles out. There is one place, which Mr. Free-land referred to, where there was a great quantity of fish caught a short time ago.

6468. What do you find to be the condition of Aberdeen Bay; do you ever fish there?—Yes. Of course a great quantity of fish was caught within the three-mile limit there, but we do not fish so much there.

6469. You did at one time have great catches of plaice in Aberdeen Bay, did you not?—Yes; but at that time trawlers were only out for a night, and now they are away for six or seven nights.

6470. Do any trawlers of yours that now fish in Aberdeen Bay get as good catches as they used to 10 years ago?—Not day after day; occasionally they do.

6471. Would you be prepared to assent to the proposition that Aberdeen Bay has, to a large extent, been fished out by trawlers?—No.

6472. To what cause do you attribute the falling off of the fish in Aberdeen Bay?—We get a lot of fish in Aberdeen Bay now occasionally.

6473. But you admit, do you not, in the first instance you used to get constant good catches of fish in Aberdeen Bay?—Yes.

6474. Would you say you only get a kind of sporadic good catches, sometimes a good catch and sometimes none at all; I want to know how you account for the change in Aberdeen Bay?—For two or three reasons. In the first place there is the three-mile limit, which a lot of flat fish go into, and another is the fish are away.

6475. Why are the fish away?—The fish have many points to go to.

6476. I do not think flat fish shift so very much, do they?—Yes, in some seasons. For instance, at Smith's Bank, there are only three months in the year when we can get flat fish there.

6477. To come to the question of immature fish, do you catch many immature fish in your nets?—Very few, indeed. We would not have a lot of immature fish once a week.

6478. Do you land all the fish you catch?—So the fishermen tell me.

6479. You do land them all, do you?—Yes, and they can get them sold, and therefore they would not throw them overboard.

6480. Then you do not agree with Mr. Free-land's description of the trawlers shovelling the small fish overboard?—No; because we can sell them, and then we have in Aberdeen a mesh of six inches, which will let out the small fish. The "Garland," in the experiments she made, had only a 3-inch mesh net, and naturally caught a lot of immature fish. We do not catch immature fish.

6481. What size plaice can get through a 6-inch mesh?—A plaice of 6 or 7 inches.

6482. Would you see any objection to the proposal which has been made by the south-country fishermen and the Hull and Grimsby fishermen that a fixed limit should be placed on flat

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Mr. PYPER.

[*Continued.*]*Chairman—continued.*

flat fish under which you should not be allowed to sell or land them?—Certainly. I do not think the small flat fish ought to be allowed to be landed.

6483. Have you any idea of the limit of size you would be prepared to accept as satisfactory?—Eight or nine inches for plaice.

6484. And what size for soles?—Six or seven.

6485. What size for turbot?—I do not know that we ever see immature turbot. Of course they would be perfectly useless.

6486. Am I justified in assuming that so far as the Scotch steam trawling industry is concerned the men would be willing to accept a size limit for flat fish, and to co-operate in the enforcement of such a regulation?—Certainly. I was at the Fisheries meeting in London last year and we agreed to that.

6487. The sizes you mention are considerably lower than those suggested by the Fisheries Conference, are they not?—Yes.

6488. Aberdeen is a very great fishing centre altogether, is it not?—Yes.

6489. For all sorts of fish?—Yes.

6490. Has the effect of the development of Aberdeen been to interfere with the fishing of the other smaller places around—places like Cove and Findon?—They come to Aberdeen mostly. I have a statement here showing that in 1883 at Cove there were 13 large boats, and five small boats, and in 1893 there were seven large boats and five small boats. At Findon in 1883 there were five large boats, and now none. At Portlethorn in 1883 there were 10 large boats and four small boats, and this year the same. At Downies in 1883 there were six large boats and three small boats, now there are only three large boats. At Skateraw in 1883 there were 11 large boats and no small boats, now there are six large boats and no small boats. At Stranathaw there were five large boats and no small boats, and now there are none at all. All along the coast in 1883 there were 50 large boats and 12 small boats; while in 1893 there are 26 large boats and nine small boats. I attribute that to the fact that since we commenced trawling there has been one of the finest fish markets in the kingdom built, 1,000 feet long, costing 10,000*l.* Previous, the fishermen had to bring their fish to Aberdeen, and their wives sat all the forenoon to sell them, now they are brought into the Aberdeen market, roused, the money paid, and the fish are away in half an hour. Previous to that the fishwives had to carry the fish from the boats up the hillside, and then carry them to the train at Aberdeen. Now they carry on their domestic duties. It is in connection with that, I think, the Fishery Board, particularly the chairman, presses the matter of spending money at these small villages, in the way of accommodation for the boats; but unless they have a market it is little use landing the fish there.

6491. Has this diminution of boats at these small places along the coast been accompanied by an equivalent increase of a similar class of boat in Aberdeen itself?—Yes.

6492. Have the fishermen, themselves, moved from the villages along the coast and taken up

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Chairman—continued.

their residences at Aberdeen?—A good many of them. The line fishing in Aberdeen has increased as follows: in 1887 the produce amounted to 24,359*l.*; in 1888 to 28,079*l.*; in 1889 to 33,468*l.*; in 1890 to 49,418*l.*; in 1891 to 55,463*l.*; last year to 67,327*l.*, and for the six months' ending June last to 41,148*l.* That is line fish only.

Dr. Clark.

6493. Is that the value of the fish?—Yes, in pounds. Last year there were 120,381 cwts. of fish landed by the line boats, and the value was 67,327*l.* There is another important item comes out there. By trawling there were 245,602 cwts. of fish landed, producing 173,770*l.*, thus showing that the trawl fishing is much more valuable than the line fishing.

Chairman.

6494. That is a good deal owing to the fact that you have some of the most valuable flat fish amongst their catches, is it not?—Yes.

6495. It is not because you get higher prices for your haddock and whiting, is it?—No; I should say we would get 5 to 10 per cent. less. It is the flat fish which brings the value up.

6496. It is the prime fish, which the other men do not catch at all, is it not, which brings up the price?—Yes.

6497. Would you be inclined to say, as far as you can speak, that the line fishing is as successful now as it used to be?—More so.

6498. Do you think that a given boat, with a given length of line, and with a given number of hooks, would catch as many fish now as it did years ago?—I think it would, if it went away to the banks, where they get them. Since we commenced trawling the line fishermen have become more energetic, and have gone away in bigger boats.

6499. I asked you if, with similar appliances to what he was fishing with 10 years ago, a line fisherman would get as large catches of fish. What you say now is, they have increased the size of their boats and increased their lines; but I want to know if they have, in proportion, increased their catches?—I should think so by the statistics. They look very much like it; they are increasing at the rate of 20 to 30 per cent. per annum.

6500. The line fishermen say the contrary; they say, with all their increased appliances and increased expense, they have the greatest difficulty in keeping up the level of their catches to what they were?—But I object to them making statements of that kind. If you look at the facts, the facts are against them. There was a statement made at Peterhead last year, in which a fisherman, referring to Smith Bank, said formerly they could get six to ten boxes by going there, and now they could only get two or three. That year the increase of line fishing at Peterhead rose from 37,000*l.* odd to 52,000*l.*

6501. Would you say from your experience of the fisheries off the east coast of Scotland there has been no deterioration in them whatever?—That is my opinion, because I have a practical knowledge of it, so far as I am personally concerned; and then I have the knowledge from the Fishery Board statistics, which I have given.

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6502. Would

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[Continued.]

Chairman—continued.

6502. Would you say that any further legislative interference is unnecessary altogether?—I say we should keep clear of the small boats and the men who work them. We have no desire to go back to the three-mile limit, but I think there should not be more restrictions. If I could not produce figures of this kind, the matter would be serious.

6503. Have you a theory that the trawlers have improved the fisheries by catching the predacious fish, the dog fish and so forth?—Yes; we in Aberdeen have a very strong theory upon that point. There are monks, dog-fish, and sharks off our coast, and every trawler that comes in does not land less than half-a-ton of those fish, and they only carry them for one day, they bring them in, and we allow the men to get what they can for them. I should suppose that about 500 tons of these monks, sharks, and dog-fish are landed annually and sold for manure, and I should suppose that the quantity thrown overboard is not less than 1,500 tons.

6504. Are they killed before they are thrown overboard?—Yes; I think they would be dead. Some short time ago we asked the men to open two or three of them, and give us an idea of their contents. The contents of the stomach of one monk were found to be six spawn, eight whittings, and a conger eel. I saw about a year ago a shark opened, and it contained upwards of a hundredweight of haddocks which the brute had swallowed; they were untouched.

6505. How big a shark was this?—It might be 10 or 12 feet in length, weighing 14 cwt. Along with these haddocks there were some fishermen's lines and hooks.

6506. The shark had been paying attention to one of the line men, had he?—Yes. Taking into consideration the destruction of all that quantity of these fish, with the evidence of this brute that was opened, we are of opinion that they do seize the spawn of the herring, and the effect of our catching so many of these monsters has been that the herring fishing has been a greater success for the last few years. That is the theory, but at any rate we know that they destroy a lot of good fish.

6507. With regard to the charges made against you of destroying spawn, have you anything to say as to that?—I have no difficulty in saying this, you will mind what Professor Huxley said ten years ago at Aberdeen. Fishermen after fishermen said we were destroying spawn. He said, "You need not tell me that, I know different," and you know different too, the spawn floats and we only go to the bottom. There is another matter which Mr. Esslemont referred to, namely: that we destroyed the fish when they were spawning. Now nearly three-fourths of the cod we get are males, the females when they are spawning we find keep to the top, so that we do not get them; and the male is the most valuable fish.

6508. That is in the spawning season, February and March, is it not?—Yes.

6509. Do you find the same thing happen with regard to haddock?—No.

6510. Do you agree with what Mr. Freeland said just now, that you catch a great quantity of

Chairman—continued.

haddocks during the spawning season, February and March?—I do not think it; of course naturally there would be some caught.

6511. Have your company had any great trouble with regard to interfering with the lines of the line fishermen?—None. I have never had a case in court. I have paid. Whenever a claim was made I have met it at once, and settled it.

6512. So far as your own company's experience is concerned, you have not had any great trouble about that, have you?—Very little, because the moment a claim is made, I make inquiries about it, and meet it at once, because I think there is plenty of room for us all.

6513. How many hands are there employed on the Aberdeen trawlers?—There are about 80 trawlers, and there are eight hands in each, that is 640 hands; and connected with the handling and the curing of fish there would be upwards of 1,000. There would be 1,600 people engaged in the trawling and the handling and curing of fish. The Findon haddock is not cured now at Findon, because there are no boats there. They are manufactured in Aberdeen, and last year there were 100,000*l.* worth of Findon haddocks sent out of Aberdeen.

6514. Are most of your trawl-caught haddocks cured, or sold fresh?—Three-fourths of them would be used for Findon haddocks.

6515. As to these 600 or 700 men who are employed upon the trawlers; from what class are they taken; are they taken from the landsmen class, or are they taken from fishermen mostly?—Taken from both. My best master was a ploughman some five or six years ago. But we get a good many from the south too, and there are some, not very many, come from Torry.

6516. As a matter of fact you do not employ many of the local fishermen, do you?—They do not come to us, or we would employ them.

6517. Is there any other point you wish to speak to?—No, but I might say, just to give you an idea of the importance of the trawling, I have here a comparative statement which I made for the benefit of my owners last year. It is a 10 years' statement of the "North Line," and it shows that the average time the boats were at sea was about three years and a-half; they cost 42,630*l.* The fish sold amounted to 92,745*l.*; the dividend paid to the owners was 19,612*l.*; the wages paid to the crew amounted to 28,454*l.*; the amount paid for coals was 16,234*l.*; for fishing gear, 8,983*l.*, and repairs, 2,722. Then for management, we paid 2,396*l.*; for ice, 3,125*l.*; for stores, 3,410*l.*; for dues, 1,184*l.*; for labour, 579*l.*; and for insurance, 2,677*l.* From that you will see what the importance of the industry is to us in Aberdeen.

Mr. Pinkerton.

6518. What was your average profit?—About 4*s.* in the *£.* it comes out at. Of course some boats do not pay so well as others, but that is about the average. It is a very important matter for Aberdeen, and what I object to, and what we naturally object to in Aberdeen, are these statements about steam trawling, seeing that we are improving, and that we are not reducing

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*Continued.*Mr. *Pinkerton*—continued.

ducing the quantity of fish in the sea. As Professor Huxley said 10 years ago, and before him, Mr. Frank Buckland said, the more machinery you had to catch fish, the more fish you would get. I maintain that during all the years I have been connected with the industry, and I am here to state what my opinion is, supposing we go on in the next 12 years in the same way, there will be as much fish caught; but if we trawlers are to be hampered and turned out to sea altogether, at least 70,000*l.* or 100,000*l.* worth of fish will never reach the port of Aberdeen. That will be, I think, a very serious matter. It was stated, as you will recollect, at the Royal Commission that we would do a great deal of harm to the herring fishing. Mr. Freeland said that then, but he is here to-day to say we have improved it. What I like to deal with is not theories, but practical facts, and I think if the Legislation would let us alone we will increase the supply of fish without depleting the sea.

Chairman.

6519. At any rate you are not afraid that the controversy will be settled by both the trawlers and the line fishermen going to the wall, because there will be no more fish to catch, are you?—Certainly not; and I really have an opinion if people would leave us alone and not occasionally come round (both sides of the House are the same), we would get on much better.

Mr. *Mallock*.

6520. What advantage do you expect to derive from reducing the size of the fish that should be sold?—Fish of a certain size is hardly worth catching, and they would be allowed to grow.

6521. Would they be alive to put back if caught?—What I have proved is, that we have no difficulty whatsoever, and I think if the other trawlers in other parts would make their mesh six inches, and the people along the east coast would use larger hooks, there would be fewer small fish caught. Professor Macintosh had no difficulty in saying that the hooks used on the east coast and at Aberdeen were the means of catching small fish.

6522. Then the only advantage of not catching the small fish would be that they would grow to larger fish, you think?—Yes.

Commander *Bethell*.

6523. I understand, like a great many other gentlemen, you say that the value of the fish that is caught is as great as ever it was, in fact, somewhat greater?—Yes.

6524. It is true, is it not, that the size of the fish that are caught is considerably smaller?—No, I can hardly say that.

6525. You would not say that, would you?—No, not to any great extent. I had a boat in this week with 160 boxes of beautiful large plaice.

6526. That is very interesting evidence, because all the evidence we have had so far is that the size of fish had materially decreased of late years, but that is not your opinion, is it?—No.

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Mr. *Buchanan*.

6527. Were these fish you speak of Iceland fish?—No, they came off the Sutherland coast, I think.

6528. When you quoted just now Professor Huxley in support of your opinion that any amount of fishing could go on without diminishing the supply of fish, of course, you did not state that all this trawling had arisen in the last ten years?—Trawling has been going on for the last 100 years, it is only new to Aberdeen in that time.

6529. But the large growth of steam-trawling, with which you are associated, is the growth of the last ten years, is it not?—Yes.

6530. Since the time of the Trawling Commission?—No, we began before the Commission sat.

6531. Anyhow the vast growth of trawling in the North Sea has been since the Commission sat, and since that opinion of Professor Huxley was delivered, has it not?—Yes.

6532. And the facts then before him were somewhat different to the facts which are before us now, were they not?—The contention before him was, that we were going to empty the sea with these new appliances.

6533. Would not this have some effect upon your opinion, namely, that during the time you have been engaged in steam-trawling throughout the North Sea you have constantly had to shift your ground for fishing?—We have to go from bank to bank.

6534. First of all you fished out Aberdeen Bay, and then you have gone on and fished out the other banks?—No, we have not emptied the fishing banks, certainly.

6535. But that was your evidence; a short time ago you told us you had to move from different parts of the North Sea to other parts in order to get the fish?—Because the fish move.

6536. You did start the theory that the fish were moving, and you had to pursue them, but the general evidence we have had has been that these banks have been exhausted, and that the trawlers and other fishermen have had to go to new grounds, do you agree with that?—That is not the case so far as we are concerned, and it is not borne out by the figures.

6537. Do you mean to say you still find the same grounds as productive as you did 10 years ago?—My boats keep a regular log, where they fish, the quantity they get, and the sort of fish they get. If they fish at Smith's Bank in the month of March for witches in one year, they get them in the month of March again, and they keep a correct note of that.

6538. Are your vessels fishing the same ground year after year?—From one place to another.

6539. Do you mean to say you have not changed your fishing ground in the North Sea during the last few years?—No; occasionally, but very occasionally we go to the Dogger Bank, but the fish are not so good there. It is very rarely we go there.

6540. You told us you had during the past year been going to this bank 150 miles off the coast?—Yes.

Q Q 2

6541. Have

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Mr. PYPER.

[Continued.]

Mr. Buchanan—continued.

6541. Have you always been going there?—Yes, but we happened to pick up a shoal of fish this last time.

6542. Have you been there every year during the last 10 years?—The bank has been fished certainly.

6543. Are we to assume from you that you are constantly fishing the same ground?—In the same ground, apart from the three-mile limit; and, certainly, we do not fish above two months of the year in Aberdeen Bay.

6544. Do you say that the same grounds are still productive?—Yes.

6545. On what ground is it, you or the other trawling companies are sending your ships further and further; you told us you sent them to the Pentland Firth and the Orkneys?—We have been sending them there for six or eight years, and they go to Iceland because they get any quantity of fish there.

6546. But if you can get them at your own doors it would be much cheaper, would it not to do so?—Yes, but we do not get them in such large quantities.

6547. Then we come back to what has been told us, namely, that there is a large decrease in the supply of fish in the North Sea?—No, that is not so according to the figures. The price, of course, has increased as the supply has increased.

6548. Do you assert here, which no one else has done, that the fishing banks, especially the inshore fishing banks in the North Sea, are as productive now as they have been in the past?—I am only speaking now about the Scotch banks. They have.

6549. Do you consider there has been no over-fishing at all?—Certainly not.

6550. No reduction of the supply?—None; the statistics show year after year otherwise.

6551. But in your statistics are mixed up the fish caught from various sources, including Pentland Firth and the Orkneys?—Yes, it is all round the East coast.

6552. With regard to the decrease in boats on which you gave us the figures, in the villages round Aberdeen and that part of the coast, your idea is to concentrate all the fishing industry in the large centres like Aberdeen, I understand?—Decidedly, such as Aberdeen, Peterhead, Fraserburgh, Buckie, and where they are in close communication with the railway, and where there would be good competition for the fish.

6553. Do you say they should be all engaged in trawling and all the fish be sent to large towns?—No, I do not say all engaged in trawling.

6554. But do you want them all to go to the big centres?—I think they would find it best. They have so found it in Aberdeen.

6555. So that you would look with indifference, I understand, upon the destruction of all these fishing communities along the coast?—I think it becomes to be a serious matter. For instance, in Stranather I happened to be a trustee of the estate where there were 2,400*l.* spent on fishermen's houses, but there is not a fisherman on it. Then, again, some 5,000*l.* or 6,000*l.* was spent in making a harbour at Cove.

Mr. Pinkerton.

6556. To what do you attribute the falling off there?—The fishing into Aberdeen.

Mr. Buchanan.

6557. Do you look upon it as a healthy sign of the fishing industry that all these small communities should decay, and the fishing be concentrated in the big centres?—I should not like them to decay.

6558. But that is the necessary result of what you have been saying, is it not?—Of course the fishermen naturally look to where they would get the best price and the easiest access.

6559. It means a serious loss to these communities, and it means a serious decrease in the people engaged in the industry, does it not?—No; because the line-fishing of Aberdeen was not worth 10,000*l.* 12 years ago, and now it is worth something like 80,000*l.*

6560. We have the figures with regard to the decrease of fishermen employed in the Fishery Board statistics; in 1889 there were 47,000 men employed in the net and line-fishing, and in 1892 45,000 odd, a decrease almost exactly of 2,000. Then the increase of the people employed in the trawl vessels is from 478 to 702, which is a little over 200; so that the more this concentration goes on the greater the diminution in the number of people employed in the industry?—Of course there were smaller boats, and they did not go more than six or eight or ten miles to sea; now they go away to the fishing banks, and certainly the number of men would be reduced.

6561. Are you opposed to any proposal for creating better facilities for fishing harbours round the coast?—I should certainly approve of it, but not in places such as Cove, where the money is actually thrown away.

6562. No one would approve of that; but supposing it can be done without throwing the money away, I understand you to say you do not consider there is any such want?—I think the fishermen at Cove found they had not a good market, and now they fish to Aberdeen. There were no buyers at Cove, and now they go to Aberdeen, where there are buyers.

6563. Could you show us in any way whether your trawlers are as profitable now per ton as they were two years ago?—I find them so.

6564. Have you any figures to that effect?—No further than this. For instance, take our first boat in 1883, which cost 5,000*l.*, in eight years she had divided amongst her owners, 5,135*l.* The "North Breeze" was the last one built, and she cost 4,469*l.* Then in the course of one year she divided 1,152*l.*; they are the first and the last boats.

6565. But you cannot show us whether they gave you increased or diminishing profits from year to year?—This is profit.

6566. Was it increasing or diminishing. The reason I ask you is that the Fishery Board have laid before us statistics to show that the profit per ship is decreasing and not increasing. Have you anything to say to that?—Yes. In the case of the "North Star," she divided an average of 500*l.* a year, and in the case of the last boat she divided during the last year, 1,152*l.*

6567. How

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Mr. PYPER.

[Continued.]

Mr. Buchanan—continued.

6567. How does the first year of the "North Star" compare with the last year?—Her first year's catch of fish was 2,356*l.*, and her last year's catch of fish was 2,458*l.*

6568. But you have no tables to show us, have you, whether the profits per ton per ship is increasing?—A profit goes by the catch; unless you catch 2,000*l.* worth of fish you have no profit.

Dr. Clark.

6569. Have you the weights for those two years?—No, I have the weights of the total quantity of fish.

6570. Was the price of fish 10 years ago very much the same as it is now?—It is 20 per cent. better now.

6571. So that you had 20 per cent. less catch then, had you not?—You may put it in that way.

Mr. Pinkerton.

6572. Are you in favour of allowing the trawlers a free hand?—Yes, I think so as long as they do no harm.

6573. Of course you are aware that a very different opinion prevails among other people, with regard to the injury done by trawling, are you not?—Yes.

6574. Are the line fishers materially affected by trawling in your district?—No; I mean to say, notwithstanding what they say, we have improved it, and they are getting more fish.

6575. How do you account for that?—As I said, in the first place, they are showing more energy in going for them and having a different class of boats. Another thing in the case of the bank we were on a few months ago, where we caught such a large quantity of fish, we were shut out of the Moray Firth, and the Moray Firth line fishermen caught practically no fish, but followed us to this bank and got plenty.

6576. You spoke in favour of increasing the size of the mesh, did you not?—Yes.

6577. Do you think that would have any appreciable effect in preventing the capture of immature fish?—The fish would get out before they got into the bag alive.

6578. Evidence was given to the effect that any strain on the trawl would close the mesh?—Not with our mesh; our mesh is three inches broader than most meshes, and there are 41 feet of it. Once the fish get into the bag of course they could not get out, but it would be half an hour before they got into the bag.

6579. Would you be in favour of extending the territorial limit in order to protect the line-fishers?—I think they are fairly protected.

6580. You are not in favour, are you, of the extension of the territorial limit?—No; I think it would be a restriction upon us, and I think there would be a kind of fish which we should be debarred from getting which the line fishermen cannot catch. Certainly I have never had any trouble with line fishermen, and so far as the East Coast is concerned they have improved their position considerably since we have commenced.

0.93.

Mr. Kearley.

6581. You do not believe, I understand, that trawling is injurious to the fishing, do you?—No.

6582. Do you hold the opinion that it tends to improve it?—Yes.

6583. In consequence of catching these sea monsters which you spoke of?—Yes, and by stirring the fish up too, when they rise to the line.

6584. Do you think that tends to improve the fishing?—I think so; at any rate the line fishermen get less fish in the Moray Firth than they did.

Dr. Clark.

6585. What evidence have you on that?—That is only a theory, and I put it in this way, that the Moray Firth line fishermen were not getting the fish when we were shut out, and followed us to this bank; certainly they got any amount of haddocks.

Mr. Kearley.

6586. But you would not attribute that to your stirring the fish up, would you?—It might be; it is an assumption.

6587. Would you not suggest that the other contention you urge in your evidence, that fish migrate from place to place, might account for the large quantity of fish you happen to find at this particular spot; would not that be more in accordance with what I may term an acceptable theory?—I do not follow the question.

6588. In your evidence you mentioned, in connection with Aberdeen Bay, that the reason for the scarcity there arose to some extent from the fact that the fish go away. I understood you to say so?—Yes.

6589. You went to a particular spot, and had a very good catch, you said?—Yes.

6590. Do you think that the cause of that good catch may have been the stirring up by the trawlers?—Yes; the fish was there, of course.

6591. I put it to you whether, if the previous contention is accurate, it might not have been because the fish leave one place and go to another?—Yes.

6592. Or do you prefer to adhere to the opinion that the stirring up by the trawlers of the fish improves the fishing?—I am only putting it as a theory; there must be some reason for it.

6593. I press the point because we have had so much evidence against trawling that it is quite refreshing to hear someone start the contention that trawling tends to improve the fishing. As regards the sea monsters, I presume they exist in the Scotch waters more than they do in the English waters. We have had no evidence of their existence in the west of England at all events; is that so?—I do not know for English waters, but I go every morning to the fish market and see them.

Chairman.

6594. They are principally dogfish, are they not?—No; monks, and occasionally a shark.

Mr. Kearley.

6595. How long do you keep the trawl down; do you give your men specific instructions?—

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[Continued.]

Mr. *Kearley*—continued.

No; they have to put into their log how long it has been down.

6596. And I presume they keep it down according to the tide?—Yes; four hours as a rule.

6597. You are going further abroad for fishing; not because your own waters which you have been in the habit of fishing so long are not maintaining their average productiveness, but simply because you find waters further afield, which are accessible now by your trawlers, to be more productive; is that so?—Yes, of course; Iceland is quite new, but we have been going to the Orkneys and the Sutherland coasts for the last six years.

6598. But I understand you to say you find your grounds sufficiently productive to meet all the requirements of your enterprise?—Fairly so, because the number of trawlers has increased.

6599. But you are not going further afield simply because your waters are fished out; that is the point, are you?—No, not to my knowledge.

6600. You mentioned that there is a tendency for these large fishing centres to engulf the outlying fishing ports?—Yes, and I think there is more chance of better prices and better accommodation.

6601. It is the fact, is it not, that these small villages are being swept away?—Yes.

6602. In consequence of the interests being concentrated in the larger ports?—Yes.

Dr. *Clark*.

6603. Am I to understand that you agree with the limit of size fixed by the National Sea Fisheries Protection Society?—Yes.

6604. Do you know their limit is very much greater than what you gave?—Yes, I made a mistake.

6605. You would take 11 or 12 inches rather than six or seven, would you?—Certainly.

6606. You mean, of course by immature fish, what is usually meant, I suppose?—Yes, what is hardly fit for human food, and what should not be caught.

6607. Do you also take the limitation that they ought not to be caught until they are fit for spawning?—I could hardly go into that.

6608. Is it your experience that there are very few, probably about 5 per cent., of immature fish caught by your trawlers?—No, not 5 per cent., I should say.

6609. Under 5 per cent.?—Yes.

6610. Would you be surprised to hear that the evidence we have from the South is, that sometimes there would be 85 per cent. caught?—I was very much astonished to hear of it.

6611. We have had evidence from a number of sources here, that in a great many of the trawlers from the south-west of England, 80 per cent. of the fish they would catch would come under the limitation of the Sea Fisheries Protection Association?—We do not find it on our coast.

6612. Is your experience entirely different?—Quite different; the fishery officials will be able to state that.

6613. You gave us some statistics of the boats in various villages, how did you get those sta-

Dr. *Clark*—continued.

tistics, and how do you acquire the facts that in several of those places the big boats and the small boats have decreased?—By reference to the villages that are shut up.

6614. You gave us a number of the old fishing villages, where there used to be, years ago, ten large boats and five small boats, and where there are five large boats and no small boats now, and so on?—Yes.

6615. How did you acquire that information?—I got the information from a gentleman who was in one of those villages, and came to Aberdeen. He is a very intelligent gentleman, and he gave me these figures as facts.

6616. You met a gentleman who had lived there, and he told you so; is that so?—Yes; and he takes a great interest in the matter.

6617. Then the information you have given us as to the condition of the boats now and years ago is based on information you have got from different sources, is it?—Yes; and in the particular village I refer to, I happened to be trustee of the estate, and I know there is not a fisherman in the village.

6618. But you have no official returns, have you?—No; but I believe that will be found to be the case.

6619. What is the basis of your complaint against the Fishery Board of Scotland for giving money to those small places; do you think they ought to give it to Aberdeen?—No; but I think it is money thrown away.

6620. Are you aware that there are a great number of places where they have been doing so, where the harbours would be useless unless they are extended, because the boats are so much larger that they cannot get in?—Of course, I am only dealing with Aberdeen, and a matter of 10 to 15 miles on either side.

6621. Your theory is, it would be far better for all the fishing villages in the county to give up and come to Aberdeen, because they have a better market, and would be more comfortable there?—Yes; because they would get a better price, and a good sale.

6622. What is your ground for saying the prices are lower at smaller places than at Aberdeen?—There is no market; the fish must be consigned to Aberdeen.

6623. Then do you think, instead of going to the villages, and sending them up from the villages by train, or carting, or otherwise, it would be better to live in Aberdeen, fish from Aberdeen, and come back to Aberdeen?—Yes; for instance, at Cove; there they are bringing the boats to Aberdeen, or sending the fish there.

6624. Would not the cost of living in Aberdeen be greater than living in a village?—Yes.

6625. House rent would be much greater, would it not?—It would. I have no desire to see fishing villages cleared out; but it must be just a matter of supply and demand.

6626. You make no insinuation, do you, that the Fishery Board, in granting these sums, which they are empowered to do by the Act, from the money given by Parliament, and from the brand fees, have neglected the trawling and given an undue advantage to the line men?—No; but the only thing is, I think they should be careful, and not land themselves in the same condition as they did

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[Continued.]

Dr. Clark—continued.

did in Cove, where, after spending all the money the fishermen went away.

6627. How many fishing companies are there in Aberdeen?—My boats are privately owned by different owners.

6628. Then are you only agent for them?—I am managing owner.

6629. Do you know how many trawling companies there are in Aberdeen more than yours?—Mine is not a company. I think there may be one public company there.

6630. Are there any other private companies like your own?—Yes, there are several.

6631. How much per cent. of the trawling steamers do you control; what is the percentage you control and manage?—I manage 10, and there would be, I suppose, 40 belonging to Aberdeen.

6632. Then you control one-fourth of them, do you?—Yes.

6633. Have you never got into trouble at all by your captains breaking the law and destroying property; in cases where they have destroyed property you have always paid the damages, have you not?—I have never been into court.

6634. Does the "North Wind" belong to you?—Yes.

6635. Do you remember, about February, last year, when the master of your "North Wind" was fined 5*l.* or a month's imprisonment for breaking the law?—I quite admit my masters have been had up for breaking the law, but that was not as to line fishermen.

6636. Is the "Premier" yours?—No.

6637. Your plea to the Committee is this, that nothing should be done except to limit the size of fish that is brought into the country and sold, is not that so?—Yes.

6638. And I take it, also, that your other remedy is, that the mesh should be increased, is it not?—Yes.

6639. If you had a 6 inch mesh, whilst that would allow some of the flat fish going out, would it not limit your catch of whiting and round fish?—We do not get any whiting, hardly.

6640. Then, as to small haddock, you must

Dr. Clark—continued.

have a great deal of haddock, would not a 6-inch mesh allow a great many to go through; do you, as a practical man, think that trawling generally for round fish as well as flat fish with a 6 or 7-inch mesh would allow the fish to go through?—We have the 6-inch mesh in use; we work it, and that is why we get no small fish.

6641. I take the gist of your evidence is, that nothing should be done to limit trawling, only that flat fish should be prohibited being landed below a certain size?—My contention is certainly that nothing should be done to interfere with an industry that is doing no harm, but doing good. I certainly think, when the law is made to keep us out of territorial waters it should be kept, and I should have no objection, supposing the sea police should be increased when the law is there, to let it be kept.

6642. May I take it that you are converted to the three-mile limit as being a wise thing?—I was against it at the time, but I would leave it alone now.

6643. You would not like to see it extended beyond three miles, I understand?—No; we are naturally more liable to get into contact with the line fishermen in the three-mile limit.

6644. Do you think, under these circumstances, the law ought to be modified in reference to trawlers coming in during the night and destroying the nets. It is very difficult for the men whose nets or lines are destroyed to know who has done it, is it not?—Yes.

6645. During the day they could see a number, but at night they could only see a light; is it not the case that a great deal of damage is done by trawlers, unconsciously to themselves?—We do not touch the lines so long as we are not trawling; sailing makes no difference.

6646. Do you not do a good deal of trawling at night?—Yes.

6647. The principal part of it?—Yes; but then we object very often that the line fishermen do not leave any trace. If they throw out a line of some miles, they should stand by it.

6648. Or have a light or a buoy?—Yes.

MR. ROBERT CRAWFORD, called in; and Examined.

Mr. Robert Price.

6649. Do you come from Great Yarmouth?—Yes.

6650. Have you had a great deal of experience in fishing?—Thirty-six years.

6651. I believe you were a hand before you were a skipper?—Yes.

6652. How long were you a hand?—Six years.

6653. Since that time you have been a skipper, have you?—Yes, for 27 years.

6654. And you have been commodore, I understand, of several fleets, have you not?—Yes, three fleets.

6655. Where used you principally to fish; on what grounds?—From the Hook of Holland down to the Texel, and from the Texel to Heligoland, and to the westward, as far as Brown's Bank and Smith's Knoll.

6656. Do you agree there is a decrease in the flat fish:—Yes, a great decrease.

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Mr. Robert Price—continued.

6657. In size, or number?—Both in number and size.

6658. Are the profits made in the trade less than they were?—Plaice fetch as much now as soles used to; there are more trawlers, and consequently there might be the same amount of fish caught, but not of such good quality; there is a less amount of prime.

6659. The price of fish has gone up, I understand?—Yes.

6660. And do you think the profits are less?—They might be equal; the fish fetch more in consequence of there being a smaller supply, I think.

6661. What, in your opinion, is the reason that the fish are less and smaller?—In various times of the year there are tons of small fish caught on the Dutch coast, the German coast, and down as far as the Horn Reef, very nearly on the Jutland coast.

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6662. Do

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MR. CRAWFORD.

[Continued.]

Mr. Robert Price—continued.

6662. Do you think the reason is, too many immature fish are caught on the Dutch coast?—I am sure of it; years ago when we fished there the fish were good sized fish, and now tons of them are not larger than your hand.

6663. Do you attribute this to the trawlers generally, or do you attribute this to the steam trawlers in particular?—Well, the steam trawlers get a larger amount in proportion than the sailing trawlers. The sailing trawlers are all over there, from the month of March up to about June, and during that time, right from the Hook of Holland down to the Texel, and from the Texel along the German coast to Heligoland, and further on to Horn Reef, is one bed of small fish, and I believe if those fish were left alone, ultimately they would grow bigger.

6664. Do you think the steam trawlers do more harm because they catch more fish?—Yes.

6665. Is there any other reason, you think, why they do more harm?—The trawls are heavier, and consequently they must cut the ground up more. The trawl heads are larger, the beams are larger, there is more weight altogether, and a good many of them use a chain, foot-rope, or dingle.

6666. The sailing trawlers use the dingle too, I understand?—Some of them, not many from Yarmouth, but a good many from Lowestoft do.

6667. Do you think most of the steam trawlers use the dingle?—A great many of them.

6668. And that cuts up the ground very much, of course?—Yes.

6669. And it catches, of course, a great many immature fish. Do you think it kills many more, and leaves them on the ground?—Yes; it stands to reason, that in dragging a chain along a shingle bottom, that chain would come with hard force, whereas a foot-rope would lift over the ground, the chain would cut into the ground and raise the soil, which would spoil the brood.

6670. Do you think steam trawlers catch and destroy more fish in proportion than a sailing trawler?—Yes.

6671. What remedies would you propose. Do you know the remedies which have been already proposed in evidence before this Committee?—Yes.

6672. The first is the size limit proposed by the National Sea Fisheries Protection Association?—Yes.

6673. Do you agree with that limit of 10 inches for plaice and 10 inches for sole; do you think that restriction would be valuable?—I think it would be too much for sole. There are various grounds in the North Sea where we catch soles, and very little offal. Then we should shift our ground if we had an order from the owners that they wanted more offal. The commodore in charge of the fleet would shift to the ground he thought would be most prolific of offal; consequently if you fished for sole with large mesh you would see very little sole at all, because the sole is a fish which burrows, and when we bring the nets to the surface the soles are head and shoulders through sometimes.

6674. What you mean is, is it not, if you had a large mesh that would keep in a 10-inch plaice it would let out a larger sole?—Yes.

Mr. Robert Price—continued.

6675. And the sole being a strong fish, tries to get out, does it?—Yes; they do.

6676. Do you think the 10-inch size for soles is too large?—Yes.

6677. Do you think the 10-inch size a reasonable size for plaice?—Yes.

6678. And you do not think it would do much damage to the fishing to have the size regulated that way?—No; for instance, Hewett's fleet, the Blue fleet, never come on the coast. They never fish above the latitude of 54 degrees, that is to say, in a line with the Humber easterly, and from that down on to the Dogger Bank, so that all the year round they are fishing for the offal, principally because the number of the packages will pay the carriage of the steamboats; it would not pay them to fish for prime. The Yarmouth fleets and Lowestoft vessels fish from that degree of latitude up to about 52 degrees, from off the Ness down to the Texel.

6679. You say the Yarmouth fishing boats do not use the dingle very much?—No; not many of them.

6680. Do you think that a close season would be of any use?—I do not really think it would. I think it would throw hundreds of people out of employment; I think if I might be allowed to suggest, I would suggest that no vessel, neither steam trawler nor sailing trawler, should be allowed to fish within certain limits. I am not against the steam trawlers, because they must live as well as sailing trawlers, but when we are fishing on the Dutch coast, a sailing trawler, if the wind is on shore, must keep off 15 miles, to allow himself drift, otherwise the vessel would blow ashore. The steam trawler has the advantage of being able to go in and get this small fry even within the limit, and have a vessel full of fish. I think the limit ought to be increased as to all kinds of trawlers, barring shrimpers.

6681. Do you mean the three mile limit ought to be increased?—Yes.

6682. Do you mean on the Dutch coast?—On the Dutch shores; our own shores are not so prolific of small fish, except quite in-shore, where the shrimpers fish. The Yarmouth shrimpers, if brought under the three mile limit, would lose part of their living altogether, because they fish in the Wold down towards Cromer; that is, a great part of their fishing ground which is within the three mile limit, so that if their trawls were taken away those people, or most of them, would have to go to the workhouse.

6683. Do you think what ought to be done would be an arrangement with foreign powers on the opposite side to protect a certain area from trawling?—Yes.

6684. Do you think that ought to be protected altogether, or only for certain seasons in the year?—I should say from the month of February to June, because after that time of year no one will venture to the other side, only trawlers. We only fish on the Dutch coast at that time of year, and by going too close in and catching immature fish, the consequence is when we come to deep water, where there used to be large fish, there are none. The small ones by lying there some months, I contend, would probably grow.

6685. And

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Mr. CRAWFORD.

[Continued.]

Mr. Robert Price—continued.

6685. And they move out further to sea, do they not?—They move out further to sea.

6686. Have you anything to tell the Committee about the shrimpers. Do you think the shrimpers do much harm to immature fish?—I do not indeed, for this reason. A shrimp's trawl beam is from 12 to 15 feet; the largest shrimp boat we have in Yarmouth is 22 feet long; and a shrimp's trawl can be lifted, when out of the water, by one man. Again, when the trawl is down, a shrimp is constantly hauling; whereas a North Sea trawler has the gear down from 6 to 8, 15, 16, and sometimes 17 hours.

6687. As much as 17 hours?—In point of fact it went down to Hull the 1st February, and was there till the 6th of April, and I have seen the trawl put down there, we will say, at 6 o'clock at night, and not hove up till 8 o'clock next morning. Well, the weight accumulated in the trawl would tend to kill the fish, whereas, with the shrimp, by constantly hauling, the fish have not had time to die, and the shrimp trawl being so small, it does not hurt the small fry in any way whatever.

6688. You mean it does not catch so much because it is not so heavy on the ground, and when they are brought up to the surface the fish are alive, do you?—Yes.

6689. Do the fishermen put them back into the water?—Yes; the better fish is culled out and the small fry thrown overboard directly. An hour is a long haul for a shrimp.

6690. Would you advocate that the trawlers should be compelled to make a shorter haul; do you think that is possible?—Yes; in Hewitt's Fleet they always make two hauls a night.

6691. That is about four and a-half hour's trawl, is it not?—Five hours; then it takes about an hour and a-half to get clear and shoot away

Mr. Robert Price—continued.

on the other tack; a salesman in Billingsgate Market can tell at once when he sees a fish whether it has been towing all night in a trawl; those fish which have been hauled sooner look much better, and fetch a higher price.

6692. How many of the small fish would be alive, do you think after a five hour's trawl?—That would all depend on the amount of muck you accumulate; some parts of the ground are rougher, some are soft. For instance, if fishing in Botany you get a muddy soil and weeds, and if the mud and weeds accumulate in the net the fish you take out are dead, they are suffocated with the soil and so on.

6693. Very few of them would be alive, would they?—Quite so; whereas on hard ground the fish are all alive and kicking about the deck.

6694. Do you think most of the small fish are alive after a five hour's trawl on hard ground?—Yes; the greater part of them.

6695. Do you think it would be possible to limit the length of a trawl; would the fishermen obey such a law, do you think?—It could be enforced; there are very few single boaters now; and, as a rule, they have to work rough holes and corners, and they have only their trawls down an hour or two before they have to come up. If an owner or a commodore of a fleet was ordered not to haul longer than a certain time, I am confident when he showed signals the others would have to obey him, because when an admiral makes a signal they do not know whether he is going to sail away or not.

6696. Is most of the trawling done with fleets?—Yes.

6697. Not with single boats?—There are a few single boats, but not so many as there used to be.

Mr. GEORGE SHEEDER, called in; and Examined.

Commander Bethell.

6698. Do you come from Scarborough?—Yes.

6699. How long have you been in the fish business there?—I have been fishing 25 years.

6700. All the time at Scarborough?—All the time at Scarborough.

6701. What sort of fishing do you pursue, in a big boat or a small boat?—At the present time I am in a small boat; I have been in the big boats.

6702. Are you what they call a longshore fisherman?—I am a longshore fisherman at the present time; I was master of a big boat from 21 years of age up to about 30 years of age, and I went in the large boats until I could not make a living whatever, at herring fishing mostly, and long lining at certain times of the year. I had to go to a smaller calling where there was less expense, and to-day I can hardly make a living, in fact, I could not live if it was not for me and my missus working together.

6703. You are now engaged in line fishing in a small boat then, are you?—Line fishing, crab fishing, and lobster fishing, as the seasons come round.

6704. What is the nature of the ground on

Commander Bethell—continued.

which you fish?—We fish both on rocky ground and sandy ground.

6705. All along that coast the ground is mostly rocky, is it not, at any rate south of Bridlington?—Yes; but I consider that we have one of the finest nurseries for fish round about Scarborough; taking Scarborough as about the centre, it is one of the finest nurseries there is round Great Britain.

6706. How big an area is it?—It would extend north and south, 17 or 18 miles, and east and west about three miles. In one place it might extend four miles; going from Filey Brigg, if you were to go in an east by north direction it might be soft ground, all sandy ground.

6707. Are there many small immature fish caught at that place?—Yes. The steam trawler has caught immature fish there.

6708. At the present time do the line fishermen catch many small fish?—A year or two previous to this there was not such a thing to be caught with the small hook while catching sole, as a small fish, at least, not by the man who was catching sole with a hook, because he always starts to lay his lines after dark, and the small fish

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Mr. SHEEDER.

[Continued.]

Commander *Bethell*—continued.

fish do not take the hook in the dark as it does in the daytime, in consequence of the fish being so scarce, a particular friend of mine started to catch soles with a hook this year, one night he laid his lines a little before dark, and lo and behold, he caught a small quantity of immature fish, such as haddock; which was a thing we had not known for years.

6709. Then it is unusual for the line fishermen to catch small immature fish, is it?—Yes, such as haddock.

6710. All along that part is trawling allowed or not?—Yes, it is allowed. We expect that the three mile limit was in force, but the steam trawler is continually infringing the law.

6711. But the North Sea Fisheries District Board have a bye-law that no trawling is allowed all along their district, except in one or two places in Bridlington Bay, have they not?—Yes, they have a bye-law; but there is no one to see that it is carried out.

6712. You mean to say, although there is a bye-law, the trawlers infringe it, do you?—Yes.

6713. Do the trawlers do serious damage at the present time to the industry of the longshore fishermen?—Last year, or the year before, I had some lines trawled away by a trawler.

6714. Are there still constant complaints from the longshore fishermen about the encroachments of the trawlers?—Yes.

6715. In spite of the bye-law that was passed?—Yes.

6716. The trawlers damage you, I understand, not only by diminishing the fish very largely, but they foul your lines, do they not?—Yes.

6717. And do they foul the crab pots?—No, not so much the crab pots; because we lay our crab pots on the hard grounds, and they do not go there, it is the lines they foul.

6718. Do they do a deal of damage to the lines?—Yes, last year there were three or four fishermen who laid their lines one afternoon, and they never saw them any more; they were taken away by the trawlers, and that is since the Act has been in force.

6719. Still, as a matter of fact, if the district committee had police they would have been able to enforce their bye-law, would they not?—Yes, I think so.

6720. Do the trawlers do any damage to crabs?—Tremendous, they do as much damage to crabs as anything.

6721. Do they catch great quantities of small crabs?—Very large quantities of small crabs.

6722. The destruction among that sort of fish is very great by the trawlers, is it?—It has been very great.

6723. Since the trawling has been stopped, and I take it to a certain extent at any rate, it has been stopped in reality, has there been any improvement in the crab fishing?—Yes, although the trawler has infringed, he has not come over the ground one-fifth as he did previously, and although he has infringed we consider that there has been a larger amount of small crabs undersized this year, than we have ever seen, and the oldest fisherman going said he had never seen such a quantity.

6724. Is it your opinion that stopping the trawling, even so far as it has gone for a year,

Commander *Bethell*—continued.

has already had an effect upon the small crabs?—Yes.

6725. Are you of opinion that the same thing can be said of the fish. Are the fish, do you think, more plentiful than they were a year and a-half ago?—I cannot say they are more plentiful, but there was this brood of small haddock which I mentioned, which is something new to us, and had the steam trawler been continually going up and down this ground, we should never have seen them, they would have been destroyed.

6726. I understand you now see small haddock which you never saw before?—Yes.

6727. Does that seem to you to be another evidence that stopping the steam trawler has been beneficial to the fishermen?—It would be, when the fish has grown to maturity.

6728. Are there are a large number of men engaged in your occupation about Scarborough?—Yes, I could not tell you the number.

6729. In your opinion are they having worse times now, than they had a few years ago or not?—Taking the thing all round, it is worse, far worse, although last year the soleing system, that is, catching the sole with the hook, was better than it had been several years previous. We attribute that to the steam trawler not having so much his own way, and coming so frequently into this nursery.

6730. It is quite clear in your opinion, and I understand you represent the opinion of the fishermen in your district, that stopping the trawling even so far as it has been stopped, has been extremely beneficial already?—It has been a little beneficial, and had not they infringed, I believe we should have been more benefited.

6731. Is there much shrimping goes on along that part of the coast?—No, there is very little shrimping; not so much as there used to be.

6732. Have the fishermen at Scarborough and thereabouts any strong opinion about stopping the sale of immature flat fish. Have you ever discussed that with them?—I have not discussed that with them, because we hardly ever get any immature flat fish.

6733. There is no feeling much about that, is there?—No, and for the sole, we would adhere to that with the sole, because we catch a larger sole with the hook on an average, than the steam trawler does.

6734. Am I right in saying, that the opinion of the longshore fishermen, so far as you know it is, that they think in the first place, trawling ought to be stopped entirely by means of police?—Yes, in the territorial waters.

6735. And in the second place, am I right in supposing that they have views about large long line boats, coming to interfere with the lines with the longshore fishermen in the smaller boats?—No, they do not come there on our coast.

6736. You have no troubles of that sort?—No.

6737. Your only trouble is about the trawling, is it?—About the trawling.

6738. I will ask you one question about the district committee. Do you think the fishermen are satisfied with the work done by the district committee?—No.

6739. They

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Mr. SHEEDER.

[Continued.]

Commander *Bethell*—continued.

6739. They are not?—No.

6740. What is the matter with it?—We have been somewhat puzzled. We could have detected the steam trawler infringing the law, but we did not know where to go to, to prosecute.

6741. But you have a gentleman who has a seat on the committee at Scarborough, have you not, do not you know how to address yourselves to the clerk of the committee?—We never could get any intelligence about it.

6742. Have you any fault to find with the constitution of the committee, and the way in which it is formed, or merely with the work which they do?—Not exactly. I have watched the workings of that committee, and I have come to this conclusion, while seeing them work, that the biggest part of that committee are landmen, and they seem to me, as far as I can judge, rather afraid that we should cause a little expense to the county; that is my impression. I think myself it would be beneficial to the community at large if there was a limit, and even a bigger limit than there is now. We cannot stop steam trawling entirely, nor yet trawling, because a large number of men get a living by it, and we do not desire it; but from a 10 to a 15-mile limit if possible all round by an international arrangement, I believe, would be both beneficial to the long liner, to the steam trawler, and likewise to the community at large in the future.

6743. That may be so; but do not you think, if it is already difficult to police a three-mile limit, it will be much more difficult to police a 15-mile limit?—Of course it would be so. If it was a 15-mile limit, it would have to be done by every boat craft, and larger craft.

6744. Who would pay for it?—That is where the difficulty is.

6745. Speaking for the longshore fishermen, it is surely to their interests to keep the three-mile limit, and try and get sufficient money to police the three-mile limit, is it not; surely, that is the best thing for them, is it not, whatever it may be for the bigger vessels?—It must be protected, because if there is no protected ground, the North Sea will as surely become a dead sea as we are here.

6746. The Committee would like to know something about the herring fishing on the coast to which you belong. That is an important industry with all fishermen, is it not, big and small?—We have had to give it up.

6747. Why?—We could not make a living out of it.

6748. Do you not fish for herrings?—No.

6749. But they do along the rest of the coast, do they not?—Yes. Some people go out of Scarborough; but very few. We have not one of our large boats which go catching herrings.

6750. Is that on account of the scarcity of herrings, or what?—I think, myself, there is a falling off which has to do with it; but still there is another thing to look at: our vessels were built more for sea-going vessels, to contend with severe weather, than for sailing propensities. Then, as to the Lowestoft and Yarmouth men, it so happened that the kippering system came up, and as their old boats were worn out, they went in for new boats, and boats for speed; consequently, 0.93—17.

Commander *Bethell*—continued.

while we were both going to catch herrings we could lay our nets, the Yorkshire men and Lowestoft men one above the other, and they could allow us an hour's start in work before them, and could allow us, if we had to turn 12 or 15 miles, two hours' sail, and then beat us to market with their fish.

6751. Does not that show rather a want of enterprise among the Scarborough men?—You see, Sir, our vessels were most of them new; we had got a new set of vessels.

6752. But, as a matter of fact, all about Scarborough you say they do not fish much for herrings?—Not now.

6753. Do they at Whitby?—There is a great falling off there of fishing for herrings.

6754. At Bridlington they do, do they not?—Only at a certain time of the year, in the winter time.

6755. The herring fishery is in the autumn, is it not?—Yes, in the autumn.

6756. I was unaware that you had given up the herring fishing practically. Have you any other information or suggestion to make to the Committee with regard to the fishing interests upon that part of the coast?—No, I do not think I have. My impression is, that there has been a little good done by the trawlers not coming so frequently into the territorial waters as they did previously; and, for my own part, as I have told you, I would extend the limit a little further.

6757. That, as you know, would be a difficult thing to do, if it can be done at all?—I suppose so, but my impression is, that that is what it will have to come to.

6758. Have you any strong opinions upon prohibiting the sale of immature fish, or a close season, or anything of the sort?—I have no opinions on a close season. I would sooner extend the limit a mile or two, than have a close season. I would not bring the immature fish to land on any account. But if the immature fish is in the trawl net a short period, it is soon dead; they are very tender fish.

6759. I do not quite understand what you expect to get from extending the territorial limit?—I believe that most kinds of fish comes into shore waters to spawn, and if that fish were let alone, the spawn would come to matured fish, and of course, would grow to the full size, and then it would emigrate; it would expand, and the vessels outside when the fish expanded or emigrated, would catch them in proportion, as it shifted from one place to another.

6760. Do the fishermen take any interest in the lectures that have been given on fishing?—They read them, and then they pass their opinion upon them.

6761. But something remains behind?—Well you see they are rather self opinionated.

6762. It takes a long time of course to educate them, but still they do read them, do they?—Yes.

6763. Do you think they are inclined to believe that mere book people, what are called theorists, are of any use on these matters?—I have this opinion, that the book man, the theory man could teach us a great deal, but I think myself the book man does not give us credit for our practical knowledge.

6764. As a rule, neither gives the other much credit

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Mr. SHEEDER.

[Continued.]

Commander *Bethell*—continued.

credit for good sense, do they?—I think they can teach us a little.

6765. The great point is, the men do not scout the book-men, but are ready to read what they tell them; the fishermen are ready to listen to what they are told by the lecturers, and to think it over, are they?—Yes; I know several fishermen who read them all.

Mr. *Kearley*.

6766. You complained that these trawlers invade the territorial limit, and inflict injury on the fish?—Yes.

6767. Are there no gun boats or ships to prevent that sort of thing?—There was once last year, as it might be last night, a steam trawler infringing the law, and as to-day a gun boat came into our roads; I was talking to a young man who went and told the people on that boat that the trawler had been infringing, and the captain said that he had no authority to act.

6768. Did you communicate with the local Fishery Board upon that matter?—No.

6769. Did any of you communicate with them?—I do not think any one ever did. Of course, we have complained of the steam trawler coming within the limit, but we have never communicated with them concerning this vessel.

6770. Did you take no other steps to have a complaint made of this dereliction of duty?—No; we have a fisherman there who is continually going to York, but I do not know whether he is mixed up with those who are engaged in the fishery question in the County Council; I expect he is. He is continually rapping at the gentlemen, but it seems that he can make no headway with them.

6771. Do you feel dissatisfied with the lack of interest and concern they display towards your affairs?—Yes, that is a general complaint.

6772. Have you no representative of your own to speak for you at the Fishery Board?—No, it is only the County Council.

Commander *Bethell*.

6773. You have one gentleman at Scarborough, have you not?—Yes, I suppose he has done his best; but it seems as if he can make no impression on the majority.

6774. It is understood it is illegal on the part of the trawlers to come within the three mile limit?—Yes.

Mr. PETER PARKINSON, sworn; and Examined.

Commander *Bethell*.

6784. You are from Withernsea, are you not?—Yes.

6785. How long have you been fishing there?—Seventeen years.

6786. Before that, were you engaged in fishing?—No, I used to be on the beach, though.

6787. Do you represent the fishermen along the Holderness coast?—Yes.

6788. That is to say, right up to Bridlington?—Yes.

6789. And beyond Bridlington?—No, as steam

Commander *Bethell*—continued.

6775. Still, in spite of all that, do they persist in doing it, and have you no method at hand to prevent it?—No, none whatever.

6776. Have you made representations to the York County Council?—Yes.

6777. And you get no favourable results from your complaints?—No; both at Scarborough and Filey we have done so times over.

6778. Are you here to-day representing the Scarborough fishermen?—Yes.

6779. Are you expressing their opinion upon this point?—Yes.

Chairman.

6780. Do you get much worse catches than you used to, yourself?—Yes. When I first went with my father in a small boat, 19 feet and a-half long, I can remember the first winter I was with him, longshoring, going not a mile from Scarborough Pier in an east to east direction, and shooting what we call haddock lines off nine lines, we should get 48 stone of haddock. I should say, without exaggerating in the least, that all the longshore fishermen in winter time these last five years, on and around about the same ground, have not caught 48 stone of haddock altogether.

6781. To what do you attribute this falling off in haddock?—To the steam trawling. I have known a steam trawler strike the haddocks year by year almost to the day, coming away east by south from Whitby, about 15 miles from Scarborough, and 12 miles from Whitby, and he follows them in sometimes within three miles of the land; I have known them bring them as high as 60 boxes of haddock in one night, each box holding eight stone of fish, and as the haddocks laid on the deck of the steam trawler the spawn run from them almost like water out of a tap. I have had my lines laid on the ground where the steam trawlers work those haddocks, and the steam trawler has gone right up along my line. I have had a buoy on each four lines, and he could see from one buoy to the other, but he has gone right up along the lines, and not only myself, but several others have remarked that that trawler has plenty of haddock heavy with spawn, while sometimes we have not seen one on our lines.

6782. Is it not the fact that when a haddock is spawning he will not take the bait?—That is the proof, they will not take the hook.

6783. Is there anything else you wish to tell the Committee?—No.

Commander *Bethell*—continued.

trawling does not affect us up to Bridlington even.

6790. Do you represent the fishermen from the Spurn up to about Bridlington, a distance of something like 40 miles?—Yes.

6791. Will you tell the Committee, the nature of the fishing in which the longshore fishermen are engaged?—They are engaged now in crabbing.

6792. What is the fishing?—There is not much fishing at this time of the year, though we are catching our own crab bait.

6793. How

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Mr. PARKINSON.-

[Continued.]

Commander Bethell—continued.

6793. How do you catch the fish?—All with hook and herring nets and long lines.

6794. The line fishing takes place when?—In October, until a bit after Christmas, when there is any fish, but of late years there have been none, it has been run down so by these Grimsby cod fishers and Yarmouth boats.

6795. What length of line do you use when you fish?—Three of us use about eight packs with about ten score of hooks on each pack.

6796. That would be something like a mile of line, would it not?—Yes.

6797. Have you any troubles in connection with your long line fishing; are you interfered with in any way?—Yes.

6798. Will you tell us the nature of your complaints?—The Grimsby men come and shoot across our lines, eight or nine of them abreast; in the herring season, we cannot fish for them.

6799. What sized boats do you use?—They are about 16 feet boats.

6800. Such a boat as you might haul up on the beach?—Yes; we carry them up every night.

6801. What sized boats do these Grimsby people use?—They come in 50-ton smacks.

6802. Then what happens, I understand, is after your lines are laid, these big boats come and shoot their nets over your lines?—Yes, always, as soon as they know we have got a place where we can get a bit of fish.

6803. That is to say when your boats are hauled up?—Yes.

6804. And they can work in bad weather when you cannot launch your boats, can they not?—Yes; that is how they do us.

6805. Then in hauling their nets in, they foul and cut yours, do they?—Yes, and pull the buoys away.

6806. Do you suffer much loss from this?—Yes, we suffer a lot of loss from them; we do not lose so many long lines because we have a buoy and an anchor to each length.

6807. Do all these boats come from Grimsby?—Some come from Sheringham, in Norfolk, but they hail from Yarmouth.

6808. Are your catches of fish less than they used to be?—A deal less.

6809. Are the fish themselves smaller than they used to be?—In some parts of the year, in October, or the winter time, we get some very nice large codfish.

6810. To what do you attribute the falling off in fishing?—We attribute it to these big cod men coming and destroying the grounds from time to time.

6811. Have they come for many years?—Yes; when I first started we could catch a nice quantity of halibut; from April up to June boats could make a good living at halibut catching for those months, now you cannot see one halibut in two years.

6812. Do you think they have been swept away by so much fishing?—It is nothing else.

6813. Do you think the fishermen whom you represent have any opinion about stopping the sale of immature fish?—No; I do not think so.

6814. It does not affect you very much, does it?—No, except as to the size of the crab.

6815. Have they any views about close season?—I do not know that they have.

0.93.

Commander Bethell—continued.

6816. Your real grievance in respect to fishing is, is it, that you do not get your own bit to yourselves, and the big boats come and interfere with you?—Yes. I have lost 26 whelk pots since last Tuesday, which have been dragged away either by Grimsby fishing vessels, or other vessels going home to the markets.

6817. Besides the fishing, you have a very large crab industry, have you not?—Yes; the east coast of Yorkshire is noted for crab catching.

6818. Have the crabs diminished in size?—Yes; they are a deal smaller and a deal scarcer.

6819. To what do you attribute that?—Eight or nine big ships will come when we start crabbing, and set 300 crab pots each, and work night and day.

6820. Are these the same boats?—Yes, most of them; but there are eight or nine yawls, which come from Sheringham, in Norfolk, which do that.

6821. Do they put their crab pots on your ground?—Yes; all over it.

6822. How do they interfere with your crab pots?—They sink them down; they run ours all underneath when they sink theirs in the dark.

6823. And very often, when this takes place, you cannot launch your boats, can you?—No; we cannot work when they work; we cannot get through the surf.

6824. Are you of opinion this has had a very material effect in diminishing the supply and size of crabs?—Yes; and they have told us, when they are going home they pick up the spawn crabs, take them away to their own grounds, and set them down, and our small crabs, too.

6825. Has the district fisheries committee taken any steps to put a stop to this?—No; they have only advised us, if we could catch them disturbing our gear, to bring the police in.

6826. Have you caught anybody?—We never knew we had any authority until this last few weeks, when we complained to Mr. Easton, who is chairman of the fishery committee on the council.

6827. Are the fishermen trying to get the numbers of these boats which are doing this damage?—They all say, since we have been told we have authority to get the police, that if they could get hold of one, they would go straight to Mr. Easton about it.

6828. Is it the opinion of the fishermen, both in respect of line fishing and in respect of crabbing, that the only thing they have to complain of is, these large boats which interfere with their industries?—That is the only thing, and they think, that if they interfere with them, the county authorities would not set the police on them; that is what they always say.

6829. You are aware, perhaps, that the district committee has no power to prevent the big boats coming in?—We also think there ought to be a limit as to tonnage of the vessels coming in, both for crabbing and fishing. We do not want to stop them; if they came and competed with us off the beach, we should run the same chance as them.

6830. It is the general opinion, is it not, of all the coast fishermen, that it is unfair to them that large boats should come from a distance and

damage

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Mr. PARKINSON.

[Continued.]

Commander Bethell—continued.

damage them?—Yes; we have no end of rows with them, all the summer through.

6831. Besides the crab and line fishing, you have a herring fishing industry, have you not?—Yes.

6832. On most of the coast, the shore boats go out with their herring nets and get herrings?—Yes.

6833. They have not discontinued it, like they have at Scarborough, have they?—We have not; we have not done anything during the last two or three years, but kept on trying. We tried last year, but could not get any quantity; when we get nicely to work, these vessels come and shoot their lines, and if you do not get your nets free, away they go.

6834. Are they the same Grimsby people?—Yes.

6835. Will you tell the Committee how they damage you?—When we have shot our nets and their lines are down they pull our nets all to pieces.

Mr. ARTHUR D. BERRINGTON recalled; and further examined.

Commander Bethell.

6840. ARE there any regulations laid down with regard to that point?—There might be within the territorial limits; with regard to mesh, for instance, they might make regulations.

6841. At present the complaint is that long liners run their lines and lay their lines across the path which they know will be pursued by the herring boats; the herring nets then foul the

Commander Bethell—continued.

6836. It is not that they come to fish for herrings themselves, but it is their long lines that foul your herring nets, I understand?—Yes.

6837. Would that be inside the territorial limit?—Yes; they come in as near as two fathoms of water.

6838. Do the shore fishermen suffer much loss in the way of nets from their nets being torn?—Yes; since I can remember I have known boats come home with nothing left but the ropes, through this, and we have gone off to them in the morning when they are hauling in their lines, and seen our nets hanging on their beam floats, what we call "dams," with a 10 feet stick through them.

Commander Bethell.

6839. May I ask Mr. Berrington whether the law has any power to deal with the herring boats that are fishing for the herrings?

Commander Bethell—continued.

buoys and get cut to pieces; would it be within the power of the district committee to take action in that case?—Yes, it would be in the power of the district committee to say the lines should only be laid in certain places, and the herring nets should only be worked in certain other places.

Mr. PETER PARKINSON, re-called; and further Examined.

Commander Bethell.

6842. I HAVE stated correctly, have I not, the complaint you make?—Yes, the complaint is of the liners coming down when we can get a few herrings, and stopping us from working.

6843. So that, in fact, if the district committee were willing, a small sea police might be of considerable benefit, might it not?—It might be a great benefit to us. They think ours are small boats, and if it comes on to blow we have to go home, that they can stay, and if you say anything to them it is no good.

6844. Are there more or less fishermen now who get a living in your neighbourhood?—About as many, but the young men keep going away to Grimsby and Hull, and go into the trawling boats.

6845. Within the territorial limit the ground is too rocky for trawlers, is it not?—We are never bothered with trawlers; we never see them at work, when we see them, they are either going to the grounds or the market.

6846. So far as you know, is there any breeding takes place along that coast?—We do not know much about that. If there comes a gale from the eastward at this time of the year, we see some sort of spawn on the beach, but in fine weather like this we never see anything of the sort.

Commander Bethell—continued.

6847. Will you tell the Committee the names of the fish you catch chiefly?—Cod, and we have occasionally caught halibut, but not of late years. Then there are herrings and crabs, and lobsters.

6848. Do you catch any soles or plaice?—No, you very seldom see a sole or plaice. Sometimes we get a few haddocks if we bait with whitebait.

6849. Have you any other information you would like to give the Committee, or suggestion to make?—No, I would only suggest that we should like small boat protection, that is what the fellows want. The idea is to have protection, so that when we put our gear into the water, it should not be dragged away by other men.

6850. What you wish the Committee to understand as the very strong feeling of all the long-shore fishermen on that part of the coast of England is, that their industry ought to some extent to be protected by preventing large boats who can come in, whether from fishing and out fishing the grounds, when you cannot get out there?—Yes. The idea of a lot of them is, to let them be under such a tonnage, so that they could stay when we cannot work. There is no idea of stopping them altogether. If they act like they have for the last few years, both from Sheringham and Grimsby, there will not be such a thing as a crab on our coast.

Tuesday, 18th July 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Colonel Cotton-Jodrell.
Mr. Harry Foster.
Mr. Heneage.

Major Jones.
Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Renshaw.

MR. MARJORIBANKS, IN THE CHAIR.

Mr. PETER FRASER MCKENNA, called in ; and Examined.

Chairman.

6851. ARE you a solicitor at Girvan?—I am.
6852. Have you taken a considerable interest in the fishery question on the south-west coast of Scotland?—Yes.

6853. Are you also a member of the Ayrshire County Council?—Yes.

6854. What district do you sit for?—For Girvan.

6855. Girvan is a very important fishing station, is it not?—Yes, it is a fishing locality all round there.

6856. What are the principal modes of fishing and the principal fish that are fished for off your coast?—The chief fishing is for herring and for cod.

6857. When do they fish for herring?—They have two herring fisheries, they have a fishing in the summer time and a fishing in the winter time. The winter herring fishery is carried on largely on Ballantrae Banks, that is off the south coast of Ayrshire.

6858. How many men and boats are there in your district?—There are over 200 boats in the locality and over 500 fishermen.

6859. Are these fisheries carried on principally by the local men or by foreigners coming in?—Largely by local men, but in the winter herring fishing there is a considerable influx of fishermen from other localities, chiefly from the Argyleshire coast.

6860. Do you have any fishing carried on by men from the east coast?—They used to come to the Ballantrae winter fishing, but they do not come now of late years since it has failed so much as it has done.

6861. Do you see any considerable falling off in the herring fishing there in summer or winter?—There has been considerable falling off in the winter herring fishing; that is on this bank.

Chairman—continued.

6862. But not in the summer fishing?—Not appreciably. The summer herring fishing, although it is carried on by Girvan fishermen amongst others, is not carried on in the immediate locality, but they have to go in turn to the Argyleshire coast for it.

6863. What class of fish do you get in the winter time at Girvan?—The fish are herring that have come to these Ballantrae Banks for the purpose of spawning.

6864. Full herring?—Yes.

6865. Are they of large size?—Yes; they are a very fair marketable fish.

6866. Are they used fresh?—Yes; they are sent off fresh to the English market.

6867. What are the methods of fishing adopted both in the summer and winter?—There are two conflicting modes of fishing; the local fishermen all use a set trammel net.

6868. Is that a single wall trammel or a double?—A single wall. The best way one could describe it would be perhaps to compare it to a wall six feet high at the bottom of the sea, set and fixed there and kept in a perpendicular position by stone weights and by corks. The stone weights are carried on strings, say nine inches long, so that there is a gap at the bottom; it is not in direct contact with the ground. It is set there and sits there constantly, and the fishermen go out in favourable weather in the morning, lift it, take the herring out that have been caught in the meshes, and set it down again. Its position is marked by floats, one at each end, and occasionally one in the centre.

6869. What length of net is it?—About 240 fathoms. They generally fish two trains of net, and each train is about 240 fathoms long. It is a pretty wide mesh net, 33 rows to the yard.

6870. What is the size of the trammel; is it
R R 4 a real

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Mr. McKenna.

[Continued.]

Chairman—continued.

a real trammel ; has it a second wall?—No ; it has simply a single wall.

6871. Then it is not a true trammel, is it?—It is the only sort of trammel we know in that locality.

6872. A true trammel has a big wall which bags the fish, besides the small mesh?—No, this is a much simpler concern than that.

6873. It is much more in the nature of a drift net, set at the bottom of the sea, is it?—Yes ; but fixed ; and of course it is not anything like the depth from top to bottom of a drift-net.

6874. Is that the local method of fishing?—Yes ; and it has been carried on there for a very considerable time. Then the other boats, some of the Argyshire boats that come to the coast for that purpose, fish with the seine net, which is an ordinary trawl net, perhaps 600 yards long, which simply encircles a quantity of fish, is then pulled together, and made to form a sort of bag, from which the herrings are lifted by baskets. The boats, of course, work in pairs for that purpose.

6875. Are those nets used at all by your local men?—No, they have been opposed to their use in that locality.

6876. And the use of them is objectionable to your local fishermen, is it?—It has always been regarded as objectionable.

6877. On what grounds?—It was introduced in 1878, I think, to that locality, and they think that it is wasteful, that it involves the capture of considerable quantities of immature fish that are on the banks at that time. For instance, some statistics that I got are as follows : In 1887, in one week, there were 3,700 crans of fish caught almost entirely by the seine net, and about half of that quantity was sold as manure to the farmers round about, the fishermen simply getting a price of about 3*d.* a barrel for them. The fields of land all round about were strewn with these fish, put there for the purpose of manuring the land. Since that time there has not been perhaps such a huge quantity, but from 25 to 50 per cent. of the fish caught by these seine trawlers is found to be of no other use than for manure, and sometimes the farmers simply buy a boat-load when it comes into the harbour without any discrimination as to size. That is one objection that the local fishermen think attached to the use of the seine net, and they say that objection is not to be measured simply by the quantity of such immature fish that are brought to shore, but they allege that the seine net often kills a great many more fish from the mode of its working than the boats can hold, and the surplus of this is lost. They are simply never taken out of the sea, but are smothered and fall to the bottom. It is thought that this fouls the ground, but I do not know whether there is much in that or not. They also think the seine net sweeping the bottom disturbs and destroys the spawn.

6878. And it is also thought that seine fishing breaks up the shoals of herrings, is it not?—Yes ; it makes the fishing very irregular instead of a continuous fishing ; running over eight weeks or so as it used to do, it only lasts now for a week or two. These Ballantrae banks are a long strip of shallow water about 10 to 12

Chairman—continued.

fathoms deep. The bank is about six miles long by two miles broad, and a number of seine boats working over it can, of course, very soon strip it altogether. It is not a feeding ground at all, it is purely a spawning ground, and the fish come there simply for the purpose of spawning, when they are concentrated, and perhaps languid, and fall an easy prey to the seine fishermen, so that the boats can in a day or two exhaust the ground practically, and clear it ; whereas by the trammel net catching moderate quantities of better-sized fish can be caught for a good many weeks.

6879. Do the seine nets interfere with the trammel nets and destroy them?—Yes, they do. It seems to be impossible for the two to go on at the same time together.

6880. I suppose the seine net, being worked round, catches on the trammels and breaks them?—Yes, or tears them away from their ground, and the seine net men of set purpose, I think, often cut away the floats or marks marking the position of the trammel net, so that they may have free scope for themselves.

6881. Is this Ballantrae Bank in the territorial waters?—It is just abutting on the territorial waters ; I think part of it may be within the three mile limit.

6882. Has not the Fishery Board already power to make such regulations as it thinks right, so far as the banks lie within the territorial limit?—I do not know that they have power to prohibit the use of a seine net on the banks.

6883. They have a right to prohibit any sort of fishing in the territorial waters?—They take a somewhat limited view of their powers on that matter ; they think their power is purely for experimental purposes ; and besides, this damage is all done at night. The seine net fishing is all carried on at night.

6884. But it makes no difference whether it is done at night so far as the power of the Board is concerned, does it?—I refer to the following up of any exact damage and ascertaining who has done it. Then, of course, there is the further question of efficient police protection.

6885. Do not the trammel net fishermen ride their nets?—No ; not at night. They leave them and go out in the early morning and lift them ; the nets are fishing in action all through the night ; they draw them in the morning and set them down again. The seine net fisherman of course has to work at night, so that it is impossible to bring damage home to any individual seine net man.

6886. Except that it might be stopped altogether?—Yes. That is, of course, what we want.

6887. But the trammel net man might occasionally remain at his nets and catch men coming over them, might he not?—This is on a very exposed coast and at a very exposed time of the year.

6888. But if the seine net fishermen can remain at sea at night, so can the trammel net fishermen, cannot they?—They have done so, and they have themselves been involved and surrounded by the seine net fishermen and found themselves and boats in imminent risk in consequence

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[Continued.]

Chairman—continued.

sequence of doing so. They do sometimes lie at their nets.

6889. And there have been considerable disturbances between the two classes of fishermen, have there not?—Yes. The seine net breaks up the shoals of herrings, I think, which find their way to these banks for the purposes of spawning, and evidently a seine net striking the head of a shoal feeling its way to the banks, breaks up the shoal and prevents it ever getting to the banks. That very frequently does happen.

6890. Do you consider that that is proved?—Fishermen have exact instances of shoals of herrings being known to be on their way to the banks being intercepted in that way and never reaching the banks, but scattering somehow.

6891. Have there been any recent enquiries into the question at all?—There was a recent inquiry by the Fishery Board.

6892. Did they make any report on it?—They thought it was a matter for further investigation so far as some of the allegations of the local fishermen were concerned, and for that purpose they sent down special officials this last winter, but the fishing was practically a failure and that fell through.

6893. Then you have no complaint to make with regard to the summer fishing have you?—No.

6894. That is carried on a distance at sea in the ordinary way, I suppose?—Yes, all the fishermen conform to one method there practically.

6895. Then I suppose this winter herring fishing is very important to your local men?—It is the only way of living that they have at that time.

6896. Where do these Argyshire men land their fish?—At the Ayrshire ports, at Girvan and elsewhere.

6897. Do they live on shore?—Some of them live on shore and some of them in their boats.

6898. Would anything in the shape of a close time be of any advantage, do you think?—We think not in the locality. Of course there is the general difficulty that attaches to a close time, which I think was brought before the Committee the other day, namely, the different periods of the year at which you would require to lay down a close time for each locality. Besides, carrying on this fishing is the only means of subsistence these Ayrshire fishermen have at that time of the year. There was a close time from 1860 to 1868, and I may mention that I noticed the other day in 1632, King Charles I. ordered a close time on these very banks; that incidentally shows the antiquity of the fishing; but from 1860 to 1868 there was a close time and the men were simply on the verge of starvation and had to be maintained by public subscription. And no good came of it, for the result of Mr. Buckland's inquiries in 1878 was that there had not been any improvement on the adjoining summer fishing during or after the period of close time. I think it would have a demoralising influence on the men to lay down a close time at that period of the year. It would put too great a temptation on them, and would inevitably lead to law-breaking by men who are otherwise law-abiding.

6899. Practically, would your recommendation be that the seine net fishing should be prohibited?—Yes.

6900. Entirely?—Yes, on that coast at that particular time of the year, on these Ballantrae

Chairman—continued.

banks, and on the approaches to the Ballantrae banks. So far as a close time is concerned, the fishermen of course require herrings for bait for the cod-fishing which goes alongside of it, and I daresay experience shows it is very difficult to maintain a close time, even if it is an entire close time, and one hardly sees how a close time with liberty to fish for bait could be enforced. A man might go out with the view of catching a few fish for bait and get a very large haul of fish. What is he to do with the remainder if they are of no use for bait?

6901. Have you had any trouble with regard to beam-trawling in your district?—It has been prohibited within our district.

6902. That comes within the Clyde district, I suppose?—Yes.

6903. How long has that been prohibited?—It was the Fisheries Act of 1889 which prohibited it.

6904. Have you had sufficient time to judge whether any advantage has arisen from the prohibition?—I had something myself to do with the agitation which resulted in the stopping of it, and we went more on the police question of destruction of material, just in the same way as we think the police aspect of this present question is a very considerable part of it. Of course that is all stopped now, or practically so; there have been one or two cases, but they have been prosecuted. Beyond that, the fishermen say there has been a considerable increase in the quantities of cod and other round fish that are caught. Some fishermen say they catch nearly double what they used to catch when the beam-trawling was carried on.

6905. Is that on account of the greater facility with which they carry on their operations, or from any increase in the number of fish?—I do not know that there has been any marked increase in the number of fish, but I should say it is from the increased facilities for fishing.

6906. Then do you think it is really a question of devising means of enabling the various classes of fishermen to carry on their fishing without interference with one another?—That is so; they cannot both go on.

6907. Is there anything else you wish to refer to with regard to the state of your fisheries?—I think not; that is the only grievance we have at present.

6908. I think you have given some consideration to the Sea Fisheries Regulation Bill now before the House?—I have looked over it.

6909. Have you any remarks to make with regard to it?—It struck me that it does not seem to provide any machinery for carrying out the election of the district boards.

6910. Surely that is not so, if you look at Clause 6, is it?—It contains a certain amount of provision here, but it does not say who is to be the returning officer, who is to carry on the election.

6911. It would be the same as a committee of the County Council surely. These fishery committees are technically nothing but committees of the County Council, are they?—Yes, part of the Fishery District Board is to be derived from the County Council; but how is the other part to be elected, and what machinery is there for carrying it through?

6912. At any rate, you do not think the machinery is made sufficiently clear, do you?—

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Yes,

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Mr. McKenna.

[Continued.]

Chairman—continued.

Yes, that is my opinion. It is a very small point, but I noted that the provisions of the County Council Election Act might be adopted here with reference to the framing of the roll of voters for this district fishery committee. It might be prepared every third year in the same way as the roll for the election for county councils is prepared.

6913. But surely that is the case, is it not?—It is not made quite clear. It is a small matter, of course. Then as to “fishing interests,” I think there might be a considerable dispute with reference to who was entitled to be put on this special roll, or who was entitled to be starred.

6914. Surely that is dealt with as clearly as possible in Clause 21, at the end, is it not?—Who is to interpret the words, “or otherwise”; is it an assessor from whom there is to be no right of appeal whatever? I think it would be better to define the expression conclusively in the Bill.

6915. Is there anything else you wish to state to the Committee?—As I gathered no one except a starred voter would be entitled to be elected a member of this district committee. I think that unless some provision was made for the payment of the expenses of members, that that choice is a little too restricted. With regard to the assessment, that is a clause which has been debated considerably, and I think it would be regarded as very unfair by those who are not resident on the coast.

6916. But still they must have money provided for them, must they not?—Yes; but I thought if a direct Government subsidy was given it might cause less friction.

6917. Do you not think it is almost as fair to allow the inland people to be assessed for the fisheries as to allow fishermen to be assessed for roads inland?—I think it is, but the question is, whether they would think so or not. If, however, an assessment is to be levied it would be simpler and cheaper to give the district committees power to call on county councils for a stated sum which the councils would collect along with their other rates and hand over just as parochial boards collect school rates.

Mr. Renshaw.

6918. You told us there were 200 boats and 500 men engaged in the fisheries in your district does that include Ballantrae and Girvan?—Yes, both, and some other little fishing stations in the immediate neighbourhood.

6919. Looking back over a period of 20 years, has there been an increase or a decrease?—I think it would be practically stationary.

6920. Looking back to a more remote period than 20 years, it has increased on the whole, I suppose?—I could not say; my experience does not carry me so far back.

6921. These boats are mostly small boats, are they not?—Yes; they are what the Fishery Board called second-class boats, boats with from 18 to 30 feet keel.

6922. I think you told us the Ballantrae Bank was just on the edge of the three mile limit. Is it not the case that the greater part of the Ballantrae Bank is outside the three mile limit?—Well, it is just about three miles from the shore; I should say the greater part of it is outside the three mile limit.

Mr. Renshaw—continued.

6923. Then you made a complaint with regard to the imminent risk of conflict between the seine fishers and the trammel net fishers, has there even been any case brought into the courts arising out of conflicts of that kind?—There is a good deal of friction between them, and there have been some police court cases, and there have also been civil actions for damage by trammel net men against seine net fishers.

6924. I suppose there is a general feeling on the part of those you represent here that the present police regulations are altogether inefficient, is there not?—Yes, that is so. That opinion seems to be very generally held all over the Scotch coast.

6925. As a matter of fact is there a strong feeling on the part of the fishermen you represent that there ought to be a better police protection afforded to sea fishermen?—That is so.

6926. You told us that between 1860 and 1868, there was a close season, did you not?—Yes.

6927. Could you tell us what period of the year that was?—From the 1st January to the 31st May.

6928. Was that found inoperative, and did the fishermen themselves plead that it might be given up?—Yes; there were various reasons assigned for the withdrawal of it, one being the difficulty of enforcing it and the hardship it involved on men who had no other means of livelihood.

6929. I think you told us there was also cod fishing done by your fishermen, did you not?—Yes.

6930. Is there any other fishing besides that?—I said they were the chief fishings; there are others, such as haddock fishing, ling and turbot, and old men fishing for lobsters. But really the chief modes of fishing are the herring and cod fishing.

6931. Is the feeling amongst those you represent here very strongly in favour of some provision being made which will prevent these seine fishermen coming and competing with the local fishermen?—It is not the competition, they have no aversion to that, but they find fault with the seine net men who are strangers, and who have themselves the chance of fishing herrings on their own shores for 8 months out of the 12. If these alien fishermen are to come over to the Ayrshire coast during the three or four months when alone the herrings are on the Ayrshire coast, and if they are then to carry on a mode of fishing which prevents the local men from exercising the plan of fishing that they have adopted as far back as one can remember, they think that they require some protection, and that they are entitled to it.

6932. I suppose they have the opportunity now of retaliating upon their neighbours and going and fishing in their waters, have they not?—When they go to the Argyleshire coast they conform to the Argyleshire mode of fishing.

6933. And they do avail themselves of the opportunities that are afforded on the Argyleshire coast, do they?—They do; but there is no conflict of interest there, I ever heard of.

6934. But when they go to the Argyleshire coast they fish in the way the Argyleshire men fish when they come to Ayrshire; is that the case?—No, that is not so. It is all drift net fishing.

6935. If

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Mr. McKenna.

[Continued.]

Commander Bethell.

6935. If the seine fishing is stopped which you are speaking about, would these men readily fall into fishing by means of trammel?—They would either do so or not come to the coast at all, I fancy.

6936. Are they all strangers?—Yes, they are; the local men have all along thought the seine net fishing was not suitable for this restricted, shallow, area.

Mr. Buchanan.

6937. Have the Fishery Board hitherto thought they had not the power to prohibit the seine net fishing?—I am told that they take a very limited view of their power as to actually prohibiting a mode of fishing. They say themselves that their powers under the Sea Fisheries Act of 1885, simply entitled them to close an area against any mode of fishing for experimental purposes, and for the purposes of their own researches.

6938. If there is any doubt of their powers in that respect, would you be in favour of making it definite and clear?—I should say some authority should have the power—of course Parliament has the power—of dealing with this matter.

6939. The question of the inefficiency of sea police has been a grievance, has it not, on that coast?—Yes, it has.

6940. Have you any vessel stationed there?—Not permanently; the "Jackal," one of the vessels, comes round occasionally.

6241. But she is expected everywhere at once, is she not?—Yes, we are no worse than our neighbours in that matter; we join in the general complaint of the inadequacy of protection.

6942. But it has been very seriously felt on the Ayrshire coast, has it not?—Yes, but I do not see we are worse off than any other locality in that respect. You see, we have practically no law to enforce on these Ballantrae Banks.

6943. Do you join in the common feeling that it is inefficient?—We do. I might add this. We simply wish this prohibited in the spring time during the time that this fishing goes on and within a limited area, the Ballantrae Banks and the approaches to them. The line that has been suggested is a line drawn from Corsewall Lighthouse to Ailsa Craig, thence on to the south end of Pladda and up to Cumbræ; we do not wish for any legislation beyond that.

Chairman.

6944. What months do you wish this to be done?—From December to March or so.

Mr. Heneage.

6945. Would not that proposal necessitate the extension of the territorial limit beyond the three miles?—That is of course a question of international law, but when beam trawling was prohibited it was prohibited in a much larger area than that.

Chairman.

6946. The whole of the Ballantrae Banks, I understand, come within the limit in which beam trawling is prohibited?—That is so; the area in which beam trawling is prohibited is a much
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Chairman—continued.

larger area, including the area I have just specified.

Mr. Heneage.

6947. But a great deal of that is beyond the three mile limit, is it not?—That is so, but it is in the Firth of Clyde.

Colonel Cotton-Jodrell.

6248. Do you mean you would prohibit December, January, February and March, or January, February and March?—I would include December, and perhaps also April. It is not carried on at any other time of the year, so that for practical purposes it might be abolished all the year round; but that would perhaps be regarded as unfair.

Mr. Heneage.

6949. Do you mean that this particular part of the sea is within the jurisdiction of the Scotch Fisheries Board now legally?—Yes, and of Parliament.

6950. But is it under the jurisdiction of the Scotch Fisheries Board now legally just as if it was within the three mile limit?—I think so. I base that opinion on the fact that Parliament has said that a certain mode of fishing is not to be carried on in that area, and has given the Fishery Board power to enforce that law.

6951. Under the Act of 1889?—Yes.

Chairman.

6952. Do you think it would be possible for these new district fishery committees, which it is proposed to constitute, to undertake the policing of their several districts for themselves?—If they were provided with funds for that purpose.

6953. But would not that be a proper charge to fall on the district?—Yes, I think so.

6954. The Lancashire district do so, and have established a police?—Do you mean by the provision of boats which would scour the sea?

6955. Yes.—I rather lean to the opinion that that could be done on a larger scale more efficiently than by the district committees.

6956. By whom?—By some Government authority; let the Admiralty take it under their charge.

6957. How many gunboats do you think would be necessary properly and efficiently to protect the coast of Scotland alone?—I do not know; but we would like one in the Firth of Clyde.

Commander Bethell.

6958. How do you propose to arrange the authority if the Government does it between the Fishery Boards and the officers of the police?—In the same way as they arrange the authority between the procurator fiscal and the police authorities. The police authorities detect the crime and the procurator fiscal prosecutes.

6959. I think two gentlemen from Scotland gave evidence as to a great deal of inconvenience about the gunboats not being more or less under the authority of the Scotch Fishery Board?—That is, of course, a question of administration, on which, I think, I can hardly give an opinion.

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6960. Would

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Mr. McKenna.

[Continued.]

Mr. Buchanan.

6960. Would you be satisfied if the policing were put into the hands of the Fishery Board, and they had sufficient vessels to discharge the duty?—We do not care in whose hands it is so long as it is done, and proper boats supplied for the purpose.

6961. Then you would perhaps rather have it in the hands of the Fishery Board than in the hands of an authority like the Admiralty?—Yes.

Mr. Heneage.

6962. What I gather from your answer is that you think the Fishery District Board, as they now are, are too small to have the command of police, that they ought to be amalgamated, so that the arrangements for the police might extend over a larger area under some greater authority?—The only Fishery District we have now is Scotland, as a whole, and I do not think that is too small. We have no Fishery Districts in Scotland yet.

Mr. JOHN L. McNAUGHTON, called in ; and Examined.

Chairman.

6963. I THINK you are central secretary to the Moray Firth Fisheries Association, are you not?—Yes.

6964. What is the size of your association?—We represent all the towns and villages between Fraserburgh on the one side and Wick on the other. I have counted them up, and I think there are 37 towns and villages.

6965. What is the membership of your association?—We have not more than 3,000 or 4,000 actual members.

6966. But may I take it that the expression of the views of your association would be the expression of the views of the great body of the fishermen in your district?—You may certainly take that, because when the delegates are appointed by the branches they are always appointed by public meeting, to which all the fishermen of the place are invited.

Mr. Buchanan.

6967. Your association is exclusive of Fraserburgh and Wick, is it not?—Yes, it does not take in either Fraserburgh or Wick.

Chairman.

6968. Can you generally state the present condition of your fisheries ; are they falling off or maintaining themselves at a fair average?—The fishing, I should say, has for the last few years been falling off.

6969. What class of fishing?—The white fishing.

6970. To what do you attribute that?—We attribute that to the action of the beam trawlers.

6971. But the beam trawlers are now excluded from the Moray Firth, are they not?—Yes, they are ; but they have not been excluded long enough to give us any great benefit. We have not felt very much benefit as yet from the exclusion.

6972. But, so far as that grievance is concerned, it has gone, has it not?—It is gone, except to this extent : that we have an occasional trawler coming in poaching at night.

6973. Do your line fishermen catch a great many small immature fish?—No, they do not. The line fishermen know by experience where the small fish are to be got, and they avoid those grounds. Then, even supposing they do catch a small fish upon their hook, they are very seldom

Chairman—continued.

properly hooked ; they are generally caught by the lip, and are very often alive ; when they are, they put them back again.

6974. Are there any fishing grounds outside the limit?—Part of Smith's Bank is outside the present limit, which is a very important fishing ground.

6975. Is that in a depleted condition?—Very much so.

6976. Do the fishermen go there still?—Yes, they do go there ; that is the principal fishing ground in the Moray Firth, but the catch of fish they get there now is very much short of what it used to be.

6977. Do they attribute that to the action of the trawlers?—They do.

6978. Can you give us any sort of comparative statement of the average catches of fish now and say 20 years ago?—Yes, I can do so. Two or three years ago, before trawling became common in the Moray Firth, a fair average shot would be 18 cwt. of haddock. Now 10 cwt. is considered a very good average catch of haddocks. In making that statement it is to be considered that the boats fish with more lines and hooks now than they used to do. Formerly one man carried generally two lines, now every man carries four lines or four half lines, as they are called. The boats go to sea oftener, and they shoot their lines oftener. That is to say, when they are out, they will perhaps have to shoot their lines two or three times before they get a catch of fish at all, where formerly under ordinary conditions they could count upon a very fair catch of fish at the first shooting of their lines upon any part of Smith's Bank. Now they have to try the places several times before they strike a spot where the fish are. Therefore they have to work a good deal harder and use more lines for a much less catch of fish.

6979. What remedy do you suggest?—We have already got a remedy to a considerable extent in the Moray Firth, and we consider that it is absolutely necessary that that remedy should be made a permanent one.

6980. But it is so, is it not?—No ; the Fishery Board have the power to take away the bye-law at any time, and it is not at all permanent if the Fishery Board have power to take it away. The fishermen in the Moray Firth would think that a very great misfortune for their calling. They have

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Mr. McNAUGHTON.

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Chairman—continued.

have seen so much of the ill effects of trawling in the last few years that if the Firth were reopened to trawlers, they are prepared for utter ruin. That is their mind upon it.

6981. Then really, so far as this portion of your case is concerned, you have rather come here to say you are satisfied with what has been already done, and you hope the course which has been adopted will be pursued?—We are satisfied so far, but I should like very much if the trawlers were prohibited from going on the whole of Smith's Bank. There is part of it outside the line. Then so far as spawning or breeding grounds outside the line or outside the territorial waters are concerned, we are very strongly of opinion that the trawlers should be prohibited, at all events at certain seasons of the year, from trawling on those grounds.

6982. Are you prepared to define any particular breeding and spawning grounds?—No; I am not; but those spawning grounds are perfectly well known to the Fishery Board of Scotland.

6983. Are they?—Yes; I should think so.

6984. I do not think you will find they will admit it?—Well, so far as they are known. If they do not know them thoroughly, you can hardly expect me to know them.

6985. But the difficulty is, you are asking grounds to be prohibited which are exceedingly difficult, if not impossible, of definition?—I should certainly not think of asking trawlers to be prohibited from going on grounds which have not been already defined by the Fishery Board—that would be unfair.

6986. And those grounds would be outside territorial waters; would they not?—Yes. Of course that is a matter for international agreement.

6987. Do you propose any close season for white fish at all?—So far as line fishermen are concerned, I do not think there is any necessity for a close season, for this reason, that fishermen have found by experience that the fish when they are sick for spawning, do not take the bait at all. Of course, all fish do not spawn at exactly the same time, and the fishermen do get fish during the spawning season; but those are healthy fish. The sick fish do not take the bait, therefore, I should say there is no necessity for a close time so far as line fishermen are concerned; but so far as regards the beam trawler, it is well known that fish when they are sick congregate on certain beds and lie at the bottom, and that the trawlers get great hauls of these sick fish at a time when they should not be caught at all.

6988. Are you aware what is the sex of the greater quantity of these spawning haddocks that are caught by trawlers?—I should not like to give a definite opinion upon that.

6989. Is it not the fact that you find them to be almost entirely male fish?—I could not say. Of course, it is very difficult for the line fishermen to get any definite ideas as to what the trawlers catch.

6990. Then, so far as the line fishermen are concerned, you would advocate no close time at all for white fish?—No.

6991. And so far as the trawlers are concerned, I understand you would advocate a close

Chairman—continued.

time; say during February and March?—Yes. There is another thing I would say, so far as regards the line fishermen, as to white fish on the East Coast, there is a close time even for line fishermen, practically; for instance, they go away to the west coast herring fishing in May and June, and then they engage in herring fishing on the east coast during July and August. Very few indeed of the line fishermen fish for haddocks all that time, in fact, even from the end of March, they begin to prepare their boats for the west coast fishing.

6992. But after all, that is after the haddocks have finished spawning, is it not; the main portion of the spawning of haddocks goes on in February and March, does it not?—Some of them are fishing for haddocks at that time, others of them are going to the cod fishing. As I said before, they catch very few sick fish, because sick fish will not take the bait.

6993. Now to come to the question of the herring fishing; can you generally state what is the feeling of your association on the subject?—In the year 1891 at our annual general meeting, there was a general finding in favour of a close time by 22 votes to four.

6994. That is a very small vote, is it not?—That was a meeting of delegates only. Then in 1892, with regard to the west coast fishing, there was a general agreement as to a close time, with no dissentient, but there was a difference of opinion as to the exact time. For a close time from 15th April to 15th May there were eight votes, and for a close time from the second Monday of April to the second Monday of May, there were 19 votes.

Commander Bethell.

6995. Only for a month?—Yes, just a month. Then, for the east coast fishing all were agreed as to a close time, with the exception of the delegates from Macduff. The reason for their dissent was this: that the Macduff men do not, as a rule, go to the west coast fishing. They engage in the fishing of early herring at home, and a close time therefore would not have suited them. Then as regards the period of the close time, for a close time from 15th June to 10th July there were 20 votes, and from 15th June to 15th July there were five votes. The two Macduff delegates did not vote in that division at all.

Chairman.

6996. On what grounds do your delegates advocate a close time?—Upon two grounds, one is that unless there is a close time a great quantity of immature fish are caught. Another ground is that, if there is no close time it is very bad for the industry.

6997. Why is it bad for the industry?—To answer that question I should require to go a little into the history of the herring fishing.

6998. I will ask you to do that, but you do not ask for a close time on the ground that the supply of herring is falling off, and that, therefore, they require to be protected, do you?—I do not.

6999. Now, give us the history?—Up to the year 1885 the herring fishing was very much in the hands of the fish curers. They engaged the

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[*Continued.*]*Chairman*—continued.

fishing boats, and contracted to take delivery of a certain number of crans of fish. They were not bound to take more than that number, and they only did so when the state of the markets encouraged a further supply being got. Then if the markets were not encouraging they refused to take more fish, and the fishermen stopped fishing. In that way the supply of fish taken was regulated. Then as regards the date for commencing fishing, on the west coast, the date in the contracts of the curers was 15th May, up to the year 1885. At the east coast fishing up to the year 1884, the date for commencing to fish, to cure for exportation, was 18th July, or thereabouts. Then there came an alteration of those dates in the years 1884 and 1885; the date for commencing to fish for herrings on the east coast was altered from about the 18th July to the first days of July. In those two years there was a very abundant catch of immature fish taken and cured, and, in consequence of that, prices fell very low, and the curing trade was practically paralysed. Another result followed from that. Curers thereafter did not enter into contracts at all. They found the contracts in those two years were utterly ruinous to them. Then on the west coast, from 1886 to 1888 inclusive, there was no restriction on fishing. In consequence many boats began to fish in the last week of April; some of them even before that. In 1886 and 1887 no particular ill-effects were felt from the early fishing, because the quantities caught were small. But in 1888, in the beginning of May, a considerable quantity of immature fish were caught, and in the third week of May a very large quantity was got. The result was that the market was completely glutted, the prices for herrings fell to a shilling per cran, and thousands of crans were made into manure, or cast into the sea again. The result of that fishing was that since then the men who were employed in the fishing as hired men principally, and the local fishermen on the west coast, banded themselves together and enforced a close time. They would not allow any fishing before the 15th May, and they enforced this close time by means of threats. Since then the fishing on the west coast has been wholesome. This year, however, there has been very poor fishing on the west coast.

7000. It has broken down completely, has it not, off Stornoway?—Yes, it did; on the other hand, there has been very good fishing at Scrabster and Stromness, which has made up for that.

7001. Do you mean us to infer that the herrings which escaped from Stornoway were caught off Scrabster?—I do not say so. The herrings were never in the Stornoway district. Practical fishermen are agreed, I think, that the fish were not in the Minch at all this year. I am aware that there were a number of boats fishing for bait, in April and May in the Stornoway district, but they could not get herrings, even for bait. The theory of practical fishermen with regard to the failure of fish in the Minch this year was this: that owing to the exceptionally fine weather the

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fish did not come into the Minch, but they held on straight to Orkney and Shetland. There are practically no spawning grounds in the Minch, and the theory of practical men is, that when they do come in there, they come to take shelter for a time, and pass on. Therefore, the reason why there was a failure this year was attributed to the exceptionally fine weather.

7002. Can you tell me if the class of fish which were caught in Orkney and Shetland this year are the same class of fish that are generally caught at Stornoway?—I am told they are not. They are a good deal larger and not the same class of fish.

7003. That rather goes against the theory that it was the same shoal that went straight on, does it not?—Let me say this, that the fish that were brought into Scrabster and Stromness this year were caught in a fishing ground which has never been fished before for herrings. They were caught in a north-westerly direction from Stromness, about 25 miles out I think, somewhere about Storm Island. I think the place is at the back of Storm Island. Then with regard to the close time at Stornoway, there is a certain class of curers who would like to have the fishing begin before the 15th May. Certain curers buy herrings for kippering and for freshing for the English markets, and it would suit them very well to have an early fishing, because at that time, as I understand, herrings are being got at no other place in Scotland. But these curers are comparatively few in number, and the interest of the great majority is decidedly at variance with theirs; at least, that is the view of our fishermen. Of course, when a very large quantity of fish is caught, and prices fall to a shilling a cran, it suits those who kipper and fresh very well, because they buy at those low prices and sell very likely at the usual ones. But it certainly is a very bad thing for the general trade that there should be so many caught and sold at a shilling per cran, and a great many used for manure. Then coming to the east coast, as I said before, since 1885 there have been no contracts with the curers. Still, as the west coast fishing did not generally finish till the end of June, there was practically a close time for the great majority of the fishermen, that is to say, if they did not finish on the west coast till the end of June, they did not begin on the east coast till the beginning of July. Until this year the first week in July has generally been a very busy week among the fishermen, preparing the boats for the east coast herring fishing. This year however there has been a change. Owing to the practical breakdown of the fishing in the Stornoway district a great many boats came home much earlier than usual. First one began to go away, and another to go away, until a great many of them went down to the east coast to fish for herrings before the end of June. The result of that is that there has been a pretty considerable catch of herrings already, and I am informed that whereas at this time last year herrings were being sold in the Stettin market at from 30 to 35 marks, this year they are only selling at about 23 marks. There are, perhaps, two reasons for

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for that; the first is, I think the fish all over are not quite of such a good class; and, in the second place, it is anticipated from the early fishing, that there will be a very large fishing on the east coast. Then, with regard to an early fishing for herring on the east coast, it might be said that the English markets would form a certain outlet for the fresh fish. That would be so if it were not for the very heavy railway charges. I made a calculation, which I have here, upon that point. The fishermen hold that about 15s. per cran is a fairly remunerative price; taking an average all over, it would not have to be much less than that. Then, in order to bring this fish to the English market, they have to pay 3s. 9d. per cwt. for carriage. Taking the cran as 4 cwt., that makes it 15s. Then you have to add about 5s. per cwt. more for cartages, market dues, and commission on sale, making a total of 35s.; that means about 7d. per dozen fish. There are about 60 dozen in a cran. Now it is obvious that 7d. per dozen for herring is a very high price to be got in the open market; in fact, it is a price very seldom got; therefore the fishermen cannot catch herrings to be sold for the English markets at a remunerative price.

7004. Then your proposal for a close time really comes to this: that it is a close time, not for the protection or the encouragement and increase of the fish, but as a means of regulating prices?—As a means of regulating the fish industry.

7005. No, pardon me, I think you have stated it very clearly and very frankly that your real object is to provide a method for regulating the output, so to speak, and for maintaining prices; that is really what it comes to, is it not?—I would rather wish to put it in this way: as an effort to maintain the trade in sound condition.

7006. That is, by enabling the trade to get a fixed and somewhat high price for their fish; that is what it comes to, does it not?—I will put it in another way: as an effort to proportion the supply of fish to the demand for it. Of course, in the end, it does come to a regulation of price.

7007. That means to say that you are going to reduce the supply of fish to the inhabitants of this country very considerably, does it not. It seems to me that where your case breaks down is this: if you could have shown that there had been a falling off in herrings, that would be a ground for a close time?—I cannot do that.

7008. Is there any compulsion on the curers to invest in the fish you mentioned; they are not obliged to buy?—No, I do not say there is.

7009. Is not the natural way out of the difficulty for the curers to refuse to buy fish until they get them of a size to suit their purposes?—That is against human nature. If you could get all the curers to do it, well and good; a good many might be willing to do it, but a few might not.

7010. But, surely, it is to the interest of the general population of the country that they should get as much fish as cheaply as possible, is it not? I say so, too, but then the fishermen cannot catch them at a remunerative price to supply them to the general public. Those who are really

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Chairman—continued.

within reach of the fish get an abundance at present, and if the fishermen catch them for the public in London, for instance, they cannot do so at a remunerative price; it is impossible.

7011. I quite understand; so you wish to take steps in order to raise the price?—No, I do not do that, but I think, as I said in my evidence, that the curers do, as a matter of fact, cure a good many immature fish, and surely a matter for the Legislation to regulate is the catching of immature fish.

7012. Then will you please define what an immature fish is?—A fish which has not come to the ripe season for spawning; that is my view of it.

7013. You would not be prepared to say that the class of herring you term “immature herring” are not good wholesome food and with plenty of food on them, would you?—No, I should not like to say that; I should not like to give an expert opinion upon that point.

7014. Then do you think that no herrings should be caught, except when they are about to spawn?—I do not say that either. It is rather a question I should leave to an expert.

7015. However, your association is very much in favour of a close time of about a month, is it not?—Yes, and they feel very strongly upon it.

7016. Both for the east coast and the west coast?—Yes.

7017. The month on the west coast being a month earlier than the month on the east coast?—Yes; I have given the precise dates already; and our view is that it might very well be placed in the hands of the Fishery Board for Scotland to regulate the close time.

7018. And to establish close times if they think necessary?—Yes. For instance, it might not be advisable to have the same close time for Orkney and Shetland, as for the rest of the east coast, and that I think should be left in the hands of the Fishery Board.

7019. Do you not think that another and considerable difficulty in the question is of having to have after all, for such a large seaboard, a sliding close time all round the coast?—I should not make it too sliding. I think two different periods would do along the east coast.

7020. You heard what the previous witness said with regard to the Ayrshire fishermen, did you not?—He spoke for the west coast.

7021. Yes, but he spoke distinctly, did he not, against any close time of any sort?—I should leave that matter also in the hands of the Fishery Board.

Mr. Buchanan.

7022. To say that there should be none at all in certain parts, do you mean?—Yes. I do not profess, of course, to speak with any special knowledge of the west coast; I should prefer to confine my evidence to the east coast and the Stornoway district.

7023. Roughly, the dates would be the month of May for the west coast and the month of June for the east coast, would they not?—No; from the 15th of April to the 15th of May for the west coast, and from the 15th of June to the 10th of July on the east coast.

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7024. Have

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Chairman.

7024. Have you anything to say with regard to the prohibition or regulation of various forms of fishing?—Yes. My association is very strongly of opinion that steam trawling should be, if not altogether abolished, at least strictly regulated.

7025. What would be your idea of strict regulation?—I should exclude the steam trawlers altogether from the bays and firths on the coast of Scotland, and also a certain distance from the sea board.

7026. That is done altogether, is it not?—Yes, for three miles only, and I do not think three miles is enough.

7027. What would be your limit?—I should say at least 10 miles, and I would measure that 10 miles from a line drawn across the outside of firths and bays.

7028. On what grounds do you propose this very considerable further restriction upon steam trawlers?—Upon several grounds. For instance, the steam trawlers destroy a great quantity of immature fish.

7029. Can you give us evidence of that?—I can give you a reference to the Fishery Board's Report of 1888 containing the researches of the "Garland," which proved it conclusively.

7030. Is it not the fact that the "Garland" trawled with a trawl of distinctly smaller mesh than is usually used by a steam trawler?—That is so, I believe, but my opinion is that it makes practically no difference as to the size of the mesh. When the trawl is actually in operation the meshes are drawn together and practically closed, so that it really makes not much difference as to the mesh used, whether it is one of the size used by the "Garland" or whether it is the one used by the ordinary trawler.

7031. Have you any statistics about the sort of proportion of immature fish that are caught by the trawlers?—I have not, but you will find in the Fishery Board Report of 1888 statistics given, but the statistics being there, I did not think it necessary to bring them here.

7032. I do not think you could found a case merely on the experiments of the "Garland." The "Garland" fished avowedly in very shallow waters, and, as I say, with a small net and a small mesh, and fished under very different conditions to what a steam trawler does when it is fishing out at sea?—Yes.

7033. So far as the "Garland's" experiments are worth anything they have been met by the prohibition of trawling within the three mile limit, have they not?—To a certain extent, yes.

7034. Because the "Garland's" trawls have been within that district, have they not?—Yes; but still there are a great many immature fish outside the three mile limit.

7035. Clearly; but my point is this, that your instance of the "Garland" is no proof of what goes on outside the three mile limit, is it?—I have already given my opinion as to the effect of the mesh, but with regard to the other point what I say is that if there are immature fish outside the three mile limit the trawlers will take them there just as well as they do within the three mile limit. I think that is a very bad thing.

Chairman—continued.

7036. What I asked you was for some definite evidence as to the amount taken, and so forth?—We line fishermen have had no opportunities whatever of getting any data.

7037. Do you also hold that the steam trawlers do great damage to the spawning beds?—Yes, in this way, that the sick fish congregate there and the trawlers take them.

7038. Do you suggest that they destroy the spawn itself?—I do not; I prefer to express no opinion upon that point.

7039. Then, further, I think you hold, do you not, that the progress of the trawl over the bottom of the sea destroys the feeding ground, and destroys the food?—Yes, I do hold that.

7040. Will you explain to us how you say that takes place?—The experience of the fishermen in the Moray Firth upon that point is this. There are certain grounds where formerly they very often hauled up their hooks with clams attached to them. Since trawling became so very common there is scarcely a clam to be caught, and that I should think is a proof. The number of clams has decreased very materially, and the only inference the fishermen can draw from that is that as trawlers trawl very assiduously over that same ground a long time their sole rope had disturbed the clams.

7041. But you would not hold that the clam is the food for the ordinary fish, would you?—No; but if they disturb the clams they will disturb everything else that is on the ground; they will harrow up the ground.

7042. Is it your opinion that the sole rope of a trawl sinks into the ground?—No, I should think not to any great extent.

7043. Is it not the fact that if the sole rope were to sink into the ground the vessel would be brought to an anchor?—It may possibly.

7044. Is it not the fact the sole rope merely brushes lightly along the bottom?—Yes.

7045. It is quite true the trawl-heads press heavily upon the ground; but the sole rope itself more lightly brushes the bottom, does it not?—It scrapes along the bottom is what I say, but with considerable force.

7046. Then I fancy there is some special fish food which you think is disturbed in the Moray Firth, is there not?—The fishermen say there is a certain thing which they call "pap and stone." This is a berry which grows on the stone, both red and white. It is of a soft substance, and the fishermen say the haddocks feed upon that.

7047. Is it a vegetable substance?—I think so. They call it a berry.

7048. Have you seen it?—I have not seen it myself. It was always found on the spawning beds, and the fishermen say that formerly it was very plentiful, that they would often bring it up on their hooks adhering to the soft substance, the pap. Now they hardly ever get such a thing; because they say that the evil trawl has been sweeping it off.

7049. I should like to hear on what ground it is said that the haddock feed on this vegetable matter?—I cannot give you any opinion upon that except this, that it is the general opinion amongst practical fishermen.

7050. Has

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Chairman—continued.

7050. Has it been found in the stomach of a haddock?—I cannot say that.

7051. Because I do not think the haddock is a fish that feeds on vegetable matter, is it?—I do not know.

7052. Do you say they have actually seen this stuff brought ashore on board trawlers?—Yes, I have got the information from eye witnesses.

7053. You also hold, I take it, that steam trawlers really depopulate the portion of the sea in which they work?—Yes, I do.

7054. Can you give us some evidence as to that?—Yes, I can give you some evidence as to that. This is the experience of the line fishermen with regard to Smith's Bank. A few years ago, before there was very much trawling on Smith's Bank, they could shoot their lines on almost every part of it, and under ordinary conditions they would get a fair catch of haddock; but that has been entirely changed in the last two or three years. The fish are only now found in small spots, and frequently the lines may be shot two or three times before they strike the fish. Then, as I have said, the fishermen have doubled the number of lines; they go oftener to sea, work much harder, and they do not get nearly the same quantity of fish per shot. I have already given the average shot now as 10 cwt., whereas before it was 18 cwt.

7055. Did not the figures you gave us before relate to cod?—No, to haddock. I can give you the figures for cod if you like. With regard to the cod fishing, about 25 or 30 years ago, the cod fishing in the Moray Firth was a large industry. It was a common thing for a boat to catch from 40 to 50 score of codfish, and upwards, off Caithness, within a line drawn from Duncansby Head to Rathray Point. Now the boats are much larger, carrying more and better lines, and using the same bait, and yet from five to 10 score of codfish is considered a good catch upon the same fishing grounds. The fishermen attribute this falling off to over-fishing by the trawlers, and to the destruction by the trawl of the small fish on which the cod feed.

Commander Bethell.

7056. Do trawlers catch codfish?—I cannot say they do catch much. They do get a few at certain seasons.

7057. They do not get anything like a haul of cod fish, do they?—No; I should rather say the trawl would frighten them away from the ground. Incessant trawling over a limited area would frighten the codfish off the ground. This year it has been observed in the Moray Firth there is a great abundance of small haddocks.

Chairman.

7058. Do you attribute that to the cessation of trawling?—Yes, the fishermen do so.

7059. Are the returns, from a money point of view, equal to what they were. Does a small catch now bring a larger price in the market as a bigger catch used to?—If you take it over all, perhaps, there is as much value of fish caught as there used to be, but you have to take into account that the fishing population is much larger; the boats are larger; they use more

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Chairman—continued.

lines; they go much oftener to sea; they work much harder; they shoot three times for one where they did before; they do all that, in order to make a living now where they made a living much easier before, and they attribute the difference to the fish not being nearly so plentiful as they were through the quantity of trawlers. Then it has been proved by experience that line fishermen and trawlers cannot work on the same ground within a restricted area, at any rate. The lines of the fishermen, when they are shot, stretch out to a length of five-and-a-half miles now, and where there are a great number of line fishermen fishing with lines in a place like the Moray Firth, and 30 or 40 trawlers trawling at the same time, it is quite obvious there must often be cases of damage. Before the Firth was closed cases of damage to lines were very frequent. Prosecutions or actions against trawlers were not frequent, for the simple reason that the evidence of identification was very difficult to get; in fact, practically impossible. In most cases the damage was done under cover of night, and of course it was impossible to identify the trawler then. But even during the day, supposing a trawler went over a fisherman's lines, and the fisherman wanted to identify him, what the trawler did was simply to take up his trawl and steam off to windward, where the fisherman could not follow him. Since the closing of the Moray Firth there have been several instances of damage to lines, but in no case has there been evidence upon which to bring a prosecution.

7060. You have not been successful, have you?—No; I have had a number of cases reported to me, but in no case could evidence be got, so it was no use to spend money upon a prosecution.

7061. But in many cases off the coast of Scotland damages have been recovered, have they not?—Yes, but nothing like in proportion to the damage done. That, of course, brings in the question of police.

7062. Have you anything to say on that subject?—We in the Moray Firth are very anxious that there should be an efficient supervision at the line closing the Firth. At present the trawlers do come in under cover of night, and trawl on Smith's Bank. That might be prevented if there was an efficient sea police. My own opinion, with regard to the control of the sea police, is that the Fishery Board ought to have the control.

7063. Do you mean the Fishery Board ought to have a police of their own?—They ought to have the control of the sea police in charge of the fisheries.

7064. How would you propose to constitute the sea police?—I have not sufficient knowledge of the subject to formulate a plan, but what I think is this: the Fishery Board should have the working and control of whatever the body may be.

7065. Who do you propose should pay for the police?—I have no doubt the fishery districts would be quite willing to pay for the sea police if they had the funds for it.

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7066. Do you not think what I suggested to the last witness, would be a good plan, namely, for each district Committee to have its own police and look after its own district?—Certainly. If the question of funds were all right, I should say that would be the best plan.

7067. After all, dividing Scotland as is proposed in the Bill into eight districts, would not be a heavy charge on any one district to maintain a police?—There is just this in it: The charge might be very much heavier in one district than another, and the value of the fish in that one district might not be so much as in another where they had very little sea policing to do.

7068. We have had one instance brought before the Committee, of the Lancashire Sea Fisheries Committee who have established a most effective police?—Lancashire is a very rich county.

7069. It is a very rich county, but it has a comparatively small sea board, has it not?—Yes; in that case, if there was a small sea board, there would not be much sea policing to do, and it would be light for the country. But it might be a serious burden on some of the districts, but that is a matter upon which one cannot give an opinion because the districts have not been formulated yet. For instance, in the north of Scotland they are not very rich, and they would have a great deal of policing to do. In Aberdeenshire and down the south, where they are much richer than in the north, they would not have so much policing to do, and it would lay a light burden upon them, and a heavy one upon us very likely.

7070. Then, I think, your association takes a strong view on the subject of Sunday trawling, does it not?—Yes.

7071. Is there a great deal of Sunday trawling now going on in your district?—I can speak from personal observation there, and before the Firth was closed, I myself, on a Sunday have seen from 12 to a score smokes on the horizon of trawlers busy trawling, and some of them quite close inshore. It was very repugnant to the feelings of the people of the district. The line-fishermen religiously observe a close time on Sunday, and we think the trawlers might give the fish a close time on that day also.

7072. Still it would not be possible to prohibit trawling on Sunday outside the three mile limit, would it?—No, not without an international regulation. While I say we should very much like to see it prohibited, I quite recognise it is a difficult subject to prohibit them trawling on Sunday.

7073. Is there any other point you wish to bring before the Committee?—I should have liked to say something about the question of harbour accommodation in our district.

7074. Will you give us your views shortly upon that point?—We have a very large number of boats in our district; for instance, in Banffshire alone we have 736 first class fishing boats and 480 second-class fishing boats, being a total of 1,216. The number is largely increasing. Since the 31st December last, we have launched 29 first-class fishing boats. The fishing boats now built are large boats, some of them having

Chairman—continued.

as much as 50 feet of keel, and are from 36 to to 38 and even 40 tons burthen. They draw when in ballast about seven feet of water, and when they are loaded with a good shot of fish, from 8½ to perhaps 9 feet of water. As I said before, our fishing boats in the winter go to sea in all weathers. They are large-sized boats, and can keep to sea in ordinary rough weather pretty well, but we are very badly off for harbour accommodation for these boats. There is not a single harbour in the whole Moray Firth which you can enter at all states of the tide, not one.

7075. Cannot you get into that new Cluny harbour?—No; you can get into the Cluny harbour two hours after the tide begins to make, and you can get out of it until within two hours of the ebb. Then I rather think Burchhead is in much the same position as the Buckie one, but with regard to the others, they are what we call half-tide harbours. That is a very great drawback to the fishing industry. Of course I recognise that the difference in the size of the boats has created the difficulty to a great extent, but these boats must go further to sea now, and, as a matter of course, must be bigger and better boats, fit to keep the sea. We are very anxious on the Banffshire coast that something should be done on the question of harbour accommodation. It has become abundantly plain to us now that unless something is done in the near future, a great part of the population will require to emigrate. There is no room for any increase of population.

7076. Do you mean to say on account of want of harbour accommodation?—Yes, on account of want of harbour accommodation. All the existing harbours are very much crowded as it is. During the winter white fishing, for instance, there are a number of fishing boats in Portessie, in Banffshire, unable to find room to fish; last winter some of them had to fish from Macduff, Banff, Port Gordon, and other ports, and a number of them went to the west coast, all because they could not find room to fish at home. That is becoming a very large question with us, and what we should like to see, would be some general scheme under which the question of harbour accommodation would be tackled to some purpose. We do not think it advisable to have a dribble doled out to one harbour here, and another there, now and again; we should prefer to see a general scheme in the hands of the Fishery Board, who would go thoroughly into the question of harbour accommodation, settle the best places where to give it, and who would have the spending of adequate funds for that purpose.

7077. In fact, what you would advocate, I understand, would be the formation, at considerable intervals, of large harbours which would act as harbours of refuge at all states of the tide for these small harbours which at present exist?—Not so much that. I should rather improve the present harbours. It is absolutely necessary, I think, the smaller harbours should be improved.

7078. Do you propose to make all these small harbours into harbours accessible at all states of the tide?—I do not know that I should all; that I would leave to the Fishery Board.

7079. But

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Chairman—continued.

7079. But the expense of making them all deep-water harbours would be something enormous, would it not?—I should not think of doing that. It would be impossible to make some of them deep-water harbours, or practically impossible, but what I say is, a good deal might be done to improve even these harbours, and one or two deep-water harbours might be constructed to which the fishing boats could go at any state of tide, either for shelter or to sell their fish.

7080. Do you propose that to be done by means of Government grants?—Under the Fisheries Bill there is a grant to be made for harbour accommodation, and I consider that the grant proposed is rather too small. It might, with advantage, be at least doubled, I think.

7081. Do you consider that the results of former expenditure by the Fishery Board of Scotland, are such as to warrant you in any great belief of their disposing of their funds better in the future?—The Fishery Board, I hope, is to be reconstructed on a representative basis before long, and I expect that a board constructed on a representative basis will do its work in a much better fashion in the future, or we shall know the reason why.

Commander Bethell.

7082. With more economy, do you think?—I think so. They can be called to account at any time to answer for their misdeeds, if they do anything.

7083. Should you say that has been the general tendency with reference to boards?—That is rather a large question.

Mr. Pinkerton.

7084. Are you in favour of extending the territorial limit to ten miles?—Yes.

7085. Would you exclude sailing trawlers from fishing within that 10 mile limit?—I do not know that I should. Sailing trawlers go much more slowly than steam trawlers, and we are anxious to save the small fish, of course, from the trawl, and the small fish can get out of the way, perfectly well, of sailing trawlers.

7086. Would you be in favour of allowing sailing trawlers to fish inside these land-locked bays and places?—No, I should not. I should prefer to keep the trawlers outside altogether. Of course there would not be the same objection, but I should prefer to keep them out altogether.

7087. With regard to the question raised about the capture and cure of immature fish being only a question for the curers, if by any action of theirs the price was unduly depreciated, would not that tend in the long run to injure the fishing industry in Scotland, and prevent the fish coming to market?—Undoubtedly so.

7088. And even in the interest of the consumers, are you of opinion it would be necessary to prevent the capture and cure of immature fish?—I do so; for instance, the result of the great catch of immature fish in 1884 and 1885, was this, that the trade was paralysed, and they did not go into the herring fishing industry for two or three seasons afterwards with anything like the same force, and not nearly so many fish were caught as might have been.

7089. In the first place, the general public
0.93.

Mr. Pickerton - continued.

would get an inferior article, would they not?—Yes.

7090. And in the long run the quantity of fish coming to market would be decreased, instead of increased, would it not?—That is my opinion.

7091. And, consequently it is not a species of trades unionism to diminish the output and increase the price?—Oh, no.

7092. Are you in favour of a close season for the line fishers?—No, because I think it is not necessary, and, as I said before, they have a practical close time of their own, when the fish will not take bait.

Mr. Buchanan.

7093. With regard to what you said about harbours, you have read, I think, the evidence given by Mr. Esslemont, and his proposals with regard to harbour formation, have you not?—Yes.

7094. Is that the kind of idea you also have in your mind?—Yes.

7095. That the Fishery Board should be empowered to borrow money on the annual grant, and then be able to embark in a general scheme for improving the harbour accommodation of Scotland?—Yes, I am very much in favour of that idea.

7096. Practically you cannot carry on the industry of fishing all round the coast without an adequate supply of fishing harbours, can you?—No, it has become a very serious question with us.

7097. With regard to the question of trawling of course you have now had the Moray Firth closed to trawlers, have you not?—Yes.

7098. That was carried through Parliament, because of the destructive nature of the trawlers fishing in Moray Firth, was it not?—Yes.

7099. Have you any evidence to lay before the Committee upon that?—I took the trouble to cull a few figures from one of the Fishery Board reports which I should like to read to the Committee. In the year 1888 there was a total tonnage of 2,689 trawlers engaged in the fishing. The trawlers caught 250,000 cwts. of fish, which was an average of 92.9 cwts. on the tonnage. In 1889 the tonnage was 3,608, the total hundredweights caught were 252,524, which brought out an average of 67.9 cwts. per ton of vessel. In 1890 the tonnage was 4,705, and the catch 291,812 cwts., showing an average of 62 cwts. per ton of vessel. Then in 1891, there were 6,484 tonnage, 323,046 cwts. of fish caught, or an average of 49.8 cwts. per ton of vessel. You will observe, that whereas, in the year 1888 the average catch per ton of vessel was 92.9, it dropped to 49.8 in 1891, which was a decrease of 46.39 per cent. in the four years.

7100. Are these Fishery Board statistics?—Yes.

7101. Are these Scotch trawlers in the North Sea?—Yes, they are.

7102. Would that tend to show that whilst the tonnage of the four years of the steam trawlers more than doubled, the catch per ton decreased by a-half?—Yes, nearly a-half, and that fact proves there has been a very great diminution of the fish.

7103. Would that tend to show this, that the trawlers

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[Continued.]

Mr. Buchanan—continued.

trawlers themselves are suffering from the over fishing that they are causing in the North Sea, and the depletion of the fishing banks?—Yes, it is an open secret in Aberdeen that the trawlers are not paying nearly so well as they did.

7104. Is it also within your experience and the experience of those interested in fishing, that as the trawling industry has developed, the trawlers have had to go further and further north and further and further from shore to get their big catches?—That is so, and they have compelled the line fishermen to do that also.

7105. And that has told hardly on the line fishermen, has it not, in causing them to spend more money in getting better lines, and providing bigger boats?—That is so, whereas the line fishermen in Moray Firth used to get good catches of fish 25 miles out, they now go 50 miles.

7106. That of course means bigger boats, and bigger boats means better harbours, and all these questions hold together?—Yes.

7107. Have you any statistics or figures to give us with regard to the Moray Firth itself; I suppose we may take it that it was owing to the destructiveness of trawling in the Moray Firth that the Legislature passed the Act of 1889, and the Fishery Board thereupon proceeded to pass the order to close the Moray Firth?—Yes, that was the ground on which the order was passed.

7108. Was the evidence clear and decisive on that point?—Perfectly clear.

Mr. JAMES BRUCE, called in; and Examined.

Mr. Buchanan.

7114. ARE you a Fisherman at St. Combs, near Fraserburgh?—Yes.

7115. Have you been engaged in that industry all your life?—I have been engaged in it for the last 50 years.

7116. In what sort of fishing?—Every kind of fishing, small and great, line fishing, herring fishing, and whale fishing.

7117. What is the principal fishing industry in which you and the people there are engaged?—The herring. We depend mostly all the year round upon herring. We get a little return for other kinds of fish; but it is mostly herring.

7118. The herring fishing is the principal industry, and then you are also engaged in the line fishing during the winter time, are you?—Yes.

7119. Is that the general character of the fishing industry in St. Combs, Fraserburgh, and the towns thereabout?—Yes.

7120. Do you desire to make a statement from the Fraserburgh people, with regard to close time?—Yes.

7121. Which represents, does it, not merely your views but also the views of the fishermen in the village near you and the fishing industry in Fraserburgh, on the subject of close time?—It represents the views of two different classes of men at two different villages. It represents their views, with a few additions of my own.

7122. Does it represent the views of Fraser-

Mr. Buchanan—continued.

7109. And from that would you deduce this conclusion that what has been good for the Moray Firth will in all probability also be good for the more extended area of inshore fishing round the coast?—Yes, we are firmly of that opinion.

7110. Do you think an extension of the territorial limit for fishing purposes, to something like 10 miles or thereabout, would include grounds similar to that which are inclosed in the Moray Firth?—We do think so and we think it is much required in the interests of fishing itself.

7111. With regard to the closing of certain areas to trawlers, I suppose you have seen the evidence given in the Fishery Board Reports?—Yes.

7112. Do you wish to convey to the Committee a similar suggestion to that which they made that certain areas where they catch these haddocks should be closed at seasons when the fish are sick?—These are principally within the Moray Firth. I do not desire to point to any particular places outside the Moray Firth, with the exception of the rest of Smith's Bank.

7113. But if it was practicable, and so far as it is practicable, would you be in favour of the Fishery Board getting authority to close the fishing of certain grounds where the fishing is proved to be destructive?—Yes, wherever the Fishery Board are satisfied there are spawning grounds for fish, we are strongly of opinion the trawler should be kept off.

Mr. Buchanan—continued.

burgh as well?—I think so; but I am sure of the villages.

7123. Does it also represent the views of the fish curers and dealers as well as the fishermen?—Mostly, I should say.

7124. Will you state what your opinion is with regard to the subject of close time for herring?—With regard to my own opinion, I would be entirely against a close time for herring, for this reason; that the trawl net will catch immature fish and the throat net or herring net cannot catch immature fish so far as I know. You may call it immature fish for the market, but as regards home use you cannot. It would be wrong to put a limit, as far as I know, on the catching of herrings; it is not the same as putting a limit on a trawl net, for the reason that the trawl net catches the immature fish; but a drift herring net, as far as I know, cannot catch immature fish. You may call it immature if it is not fit to cure for foreign markets, but not immature for home use. The remedy, I think, for that will be found in cheaper rates.

7125. Do you think the term "immature" is not a term that is applicable to herrings?—No, not that I have seen. For present use a small herring is as good as a big one for food; they will not stand the curing, but they are pleasant food. I would eat a small herring as soon as a big one.

7126. But the herring nets catch only fish that are

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[Continued.]

Mr. Buchanan—continued.

are fit for food and valuable for food, do they not?—I never saw anything else, and more so now, because they are using larger meshes.

7127. Are herrings marketable as food at all seasons of the year whatever size they may be?—As far as ever I have seen them.

7128. Would they be much more marketable if you had lower rates, and better facilities for sending them to the home markets?—Yes.

7129. Is that a grievance which is very much felt?—That is a grievance which is very much felt. Sometimes the railway will charge more for the rates than the people who catch them the buyer and the seller, all put altogether.

7130. Would you be opposed to a close time for another reason, because the herrings come to maturity at different times on different parts of the Scotch coast?—I think it would be impossible with all the wisdom of the country put together to get a uniform time, because if you take the three different ports, Fraserburgh, Peterhead, and Aberdeen, you find the one port is always different from the other. This season, I think, is a proof of that, for there have been as fine herring caught on the 1st July this year as would be caught some years towards the latter end of it.

7131. Not merely do the herring come to maturity at different periods at different parts of the coast, but the time at which they come varies from year to year, does it not?—It does.

7132. This year it has been unusually early, has it not?—Exceptionally early this year.

7133. So that even supposing we were to take the suggestion of the last witness, you do not think it would be practicable to have a close time for the west coast, and a close time for the east coast, do you?—I do not think it; it might be that the close time had something to do with the failure of this past Stornoway season; it was an early season all round, and the herring might have called and gone out.

7134. Has there been any decrease in the supply of herrings?—None; it is the largest season I have ever known.

7135. Is there any attempt to argue in favour of the close time because of any decrease in the supply of the herring?—None; so far as facts are concerned, there has been a better supply this season than ever I knew.

7136. Would you also be opposed to the close time, because it would seriously affect the means of livelihood of a large number of the fishermen?—I do think that; it would affect the fishermen particularly in the country as a whole.

7137. Have the herrings appeared at a different season this year than usual, all along the different parts of the coast?—Yes.

7138. Would that also aggravate any throwing out of employment amongst the fishing community, supposing a close time had been passed?—Yes.

7139. Not merely would people be thrown out of employment for a certain period of the year, but they would never know from year to year what period of the year they might be thrown out of employment for?—No.

7140. Are you strongly in favour of the development of the herring industry for home consumption?—Yes.

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Mr. Buchanan—continued.

7141. Do you consider that that might be much more largely developed than it is at present?—Much more largely.

7142. Do you think if we were to impose a close time you would put the British and Scotch fishermen at a disadvantage compared to the foreign fishermen?—I have no doubt about it, myself, that if you were to put a close time upon them, and the foreign fishermen are allowed to fish upon the same ground now where our boats are just gone alongside of them, if you were to put in a close time for the Scotch boats, and allow foreigners to take fish and take them to the same market, it would affect the country, I think, a good deal on the whole.

7143. Is there anything else you would like to say about a close time?—No, not that I remember.

7144. Do I understand that in these views you have stated with regard to close time, you represent the views of the fish curers and fishermen at Fraserburgh?—I could not say as a whole, but I really think I represent the majority of them.

7145. And that direct witnesses would have come from Fraserburgh if it had not been that this is just the height of the herring fishing?—There is no doubt but that they would, but this is just the very height of the season, and they cannot get away hardly upon any condition.

7146. With regard to the other subjects referred to the Committee, would you tell us what you have to say upon the subject of trawling?—As far as we are concerned in the village of St. Combs, the haddocks do not come close into the shore, but to speak the truth concerning flat fish, since the trawlers have come there we have hardly had any at all.

7147. Has there been any great diminution of flat fish?—There has been a great diminution of flat fish. They do not do so much damage to the haddocks, because the haddocks do not go in so far, they are further out.

7148. It is very rocky ground just by you, is it not?—Yes, for a good distance off. It is a grand place for herrings, but not so favourable for haddocks.

7149. Do you know the Moray Firth?—Yes.

7150. The Moray Firth has been closed to the trawlers, has it not?—Yes.

7151. Are you aware that action was taken because of the destruction to the fishing grounds within the Moray Firth?—Yes, I am aware of that.

7152. I suppose you can tell the Committee that that action was taken with the full approval of the fishermen in Fraserburgh and St. Combs, and round the Moray Firth?—With their full approval.

7153. Has it met with their approval?—Yes, and they believe it is doing good. The fish which were nearly all taken away have begun to collect in the bays again.

7154. If it could be shown that the restriction of trawling within larger limits was practicable would you consider that it would probably have equally good results?—I would indeed.

7155. With regard to harbours, have you anything to say on that subject?—Yes, I think the want of harbours has hindered the development

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Mr. Buchanan—continued.

of the herring fishing, especially on the north-east coast of Scotland. At the place where I come from in particular, or rather one of the villages, Inverallochy, which lies nearer Fraserburgh, we have no harbour there, but we have a good site. I know that a harbour would pay the country there, and it would be able in a short time to return the money spent on it, because it is in a great centre. The fishermen come from Moray Firth to that centre and they come from the south to that centre. We lie between Peterhead and Fraserburgh.

7156. You are just about the point which is nearest the fishing ground, and also on a very stormy part of the coast about midway between Fraserburgh and Peterhead?—Not entirely midway, but nearer to Fraserburgh than Peterhead.

7157. What has been the loss of your fishing there because of the absence of a harbour?—Great; I would hardly calculate how much has been the loss.

7158. You have no harbour suitable for your big boats, have you?—None, whatever.

7159. What have you to do?—We have to leave home every season and it has come to this now, that there are too many boats for safety at the ports of Peterhead and Fraserburgh and we have to go and take our chance. If there was more room to work into the harbour we should go out more to sea and catch a great deal more herring.

7160. Particularly in the herring season you have to go into Fraserburgh and Peterhead and increase the crowd in the big harbours?—Every season we have to go there.

7161. That is not a single case, but the same difficulty occurs at many of the fishing villages around the north-east coast, does it not?—Yes, those three villages in particular. I know of no want so real as in those I mention. I belong to one of them, but speaking for the whole interests of the country, harbours are wanted.

7162. Are you sufficiently acquainted with the rest of the north-east coast to know that it is a grievance which is general?—Yes.

7163. Would you be in favour of what was suggested by Mr. Esslemont namely, that the Fishery Board should be empowered to embark upon a general scheme for improving the fishery harbours particularly on the east coast?—That is exactly my idea. I think all round the country would benefit by it, because the fishing industry is kept back a great deal for the want of harbours.

7164. It is impossible for the men in these various villages all to find employment in Fraserburgh, Peterhead, or Aberdeen, is it not?—We must just go and do as we can, and I may tell you there are too many at those ports now.

7165. The last day the Committee met Baillie Pyper told us there was no loss suffered by the change of the industry, but what I understand from you is, that although a large number of boats do go into Fraserburgh, still there is a substantial loss to the fishing community remaining at home in the absence of harbours?—There is no doubt about that; there is no harbour accommodation for them at home; and we are so near the centre fishing ground there that they come from the Moray Firth and South Firth both to that centre,

Mr. Buchanan—continued.

and there is that grievance, as I tell you, that there is hardly room to run into Peterhead or Fraserburgh.

7166. Would the fishermen themselves, from your knowledge, be willing to assist largely in any scheme drawn up for the construction of harbours?—Yes, as far as their ability goes, I know they would do anything to get it.

7167. And it is a crying, and one of the most pressing, wants on the east coast, is it?—Yes, one of the most real wants.

7168. And increasing every year as the fishing boats increase in size?—Yes, exactly so.

7169. It was not half so much felt, was it, in your young days, because you fished in small boats?—Not half so much; because boats were not half the draught of water, and they require it now for the big ones coming into harbour. They go out now 50 to 60 miles, and fish alongside the Dutch fishermen.

7170. Have you anything to say about the protection of certain areas or spawning grounds?—That would require a man of science to speak about, I think. I know the place where fish spawn, and I could tell you the different dates for spawning, but I could not suggest much about it.

7171. Could you not say whether it would be practicable to close the spawning grounds of certain kinds of fish at certain times?—I could not. It might be cod comes in very close to spawn for the reason that the ground is hard, and we think she always resorts to the hard ground and rocky bottom at the time of spawning; we always find them there about the spawning time.

7172. With regard to bait, have you found any great difficulty in getting bait for your lines?—Great difficulty; and there is great need for improving the mussel beds.

7173. Do you depend upon Dutch and Irish bait?—Yes.

7174. And have to pay large sums for it, do you not?—We pay as much as 2*l.* 5*s.*, 2*l.* 6*s.*, and 2*l.* 7*s.* per ton.

7175. Do you know that it is proposed in the Fishery Bill to put the mussel beds under the control of the new district fishery committees?—Yes, I know that; and I was happy to hear it was to be done; it will be a great relief when it comes into force.

7176. Do you approve of that?—Yes.

7177. And the constitution of these committees for that purpose?—Yes; it must be a great benefit.

7178. Is there any other point you would wish to speak upon?—Not that I remember; but if there is anything you wish to ask that I know, I will give an answer as far as I know.

Mr. Renshaw.

1779. You have spoken of the wants of Inverallochy and St. Combs; have they railway stations at present at these places?—No.

7180. So that, practically, a harbour would not place you in a much better position than you are at present, unless you had railway communication, would it?—No; but railway communication would be very easily got, it is no distance off.

7181. Did you hear the evidence of the last witness, Mr. McNaughten, that, in his opinion, a close

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a close time was necessary, in order that the prices of herrings might be raised?—Yes.

7182. Does not that look rather as though plenty of herring was landed, and the difficulty was of securing that they should be cheaply carried to inland markets at a profit to those who had fished and caught them?—I told you my opinion about the fish. I think it would be the greater loss if you were to shut the fishing up, for this reason, that I think it would really develop a market if the railway rates were reduced a bit. I deny, as far as I know, or have heard anything about it, that there are any immature fish cured. I never heard of a man taking a small herring for that use, but why they take immature herrings is, because though they are not fit to cure for continental markets, they are a great deal required as an article of diet in our own country.

7183. How many boats are there altogether in the district which you represent; these three villages?—I could hardly give you an exact account, but I know once there were over 50 herring boats in St. Combs itself. They are a bit reduced now, because for two or three years they were reduced in consequence of the failure of the herring. Then they are getting bigger and bigger and more difficult to get. But there are a considerable number in the villages; I could not tell you how many there are, but there is a considerable number.

7184. Can you tell us why the herrings turned out a bad speculation for the curers?—I could tell you what I think was the reason. I think there were men embarked in it who had no practical experience of it. It was a paying business for two or three years, and then there was such a rush made upon it by those who had no practical experience.

Mr. Pinkerton.

7185. The previous witness stated it was owing to an attempt to cure the immature fish that ruined the curers at that time?—He might be partly right, but I think I am partly right too, namely, that it was not practical men who embarked in the business.

Mr. Renshaw.

7186. It was not the case that a great quantity of fish was landed and that such a large number of men competed with one another so much that the one ruined the other?—I do not think it is so much that as I have stated. I think it was inexperienced men going into the business, who did not know how to deal with the business, and entering it without any capital.

7187. But it was a fact that at that particular time when this happened a very large quantity of fish were landed, was it not?—Yes, and that had partly to do with it.

7188. More fish than really there was a demand for?—Yes, and then they competed together. The other gentleman may be quite right, and I think I am quite right to.

7189. That is to say, there was more landed than there was a demand for?—That I could not say. They always get rid of it no matter how great the quantity, at a good enough profit.

7190. For manure, do you mean?—There are not very many taken for manure. That happens

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Mr. Renshaw—continued.

sometimes if they are late in coming in. It is true some are taken for manure, but I think it would not have been so if it had not been that they would not pay for curing. I say that the present system of buying at a daily price is better than the old system. It used to be that they engaged the men at a certain bounty and so much a cran, but now they buy the fish at the quay. If it is good herring it is a good price; if it is small herring they give a price according to what they think they are worth. I think that system will be better than the old bounty system.

Colonel Cotton-Jodrell.

7191. Might I ask you to simplify this manure business. Do you know of such cases occurring as farmers coming down and buying a boat-load of herrings merely for the purposes of manure, and not caring whether they were eatable fish, or immature fish, or not?—Yes. I remember one year when there was a heavy fishing in Fraserburgh, about as heavy a one as ever has been. I forget the day of the month; it was in the month of July, but there were thousands of crans taken away for manure, not that they were needed to go for manure, but for this reason, that the curers were over-supplied, but they had to get a price for them; they knew the market would not afford return to cure them. I do not say that was so in every case.

Mr. Heneage.

7192. In fact the market was too full of herrings that day, was it?—Yes, it was.

Colonel Cotton-Jodrell.

7193. What year was that, do you remember?—My memory is not sufficient to carry me back.

Mr. Heneage.

7194. Was it 1884 or 1885?—I think it was before that.

Colonel Cotton-Jodrell.

7195. Has anything of the kind occurred since then?—No. As a proof that the men get fish most suitable for food, and profitable to take it as a general thing, there was a heavier haul on the 7th of July, this present year, than ever was known, and there was a very good price got, except by the boats that were late in coming in.

Mr. Heneage.

7196. The market was quite as full, and excepting the late boats, they got a good price, did they?—Yes; a fair uniform price; not all the same, but a fair uniform price.

Colonel Cotton-Jodrell.

7197. Has this curing industry mainly developed itself since 1884 or 1885; that is to say during the last seven or eight years?—No. I believe during these years it suffered greatest losses, and it will take a good few years to recover itself. There was a deal of money lost in it; it was only the best established men, and the men with best knowledge who were able to go through the crisis; there were a lot of men who failed in it. They went into the business without any capital,

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and

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Mr. BRUCE.

[Continued.]

Colonel Cotton-Jodrell—continued.

and as a matter of necessity they were bound to come down, but I knew of many men who had lost their all.

7198. You were asked a question about the number of people you are here speaking for. You are the representative of three villages or three small towns, I understand?—I only represent one, but I am stating that if the wants of one were supplied, the whole of the three would be supplied; we are close to each other.

7199. Are you all engaged pretty much in the same industry?—All engaged in the same industry.

7200. With the same interest?—With the same interest.

7201. Do you consider that you are the spokesman of the lot, and you all pretty well know what you want. Are all your friends round you pretty much of the same opinion as you are?—Yes; they are of the same opinion as me, to a man. I did not come up here with the express purpose to tell you so directly, our wants, but I was glad to ask Mr. Buchanan, if I could get the opportunity or privilege, to do it. My express purpose, mostly, was to come and answer your questions about sea fishes in general. But we are in great hopes we shall get a harbour, and the people round about are all interested in the matter. If we could procure a little grant, or a loan, it would be returned again with interest very shortly; and we hope the present Government will see their way to give us a little help.

7202. How many fishermen do you suppose you represent, about?—They have diminished this year or two; some of them have gone into Fraserburgh, but I know that there would be close upon 3,000 at one time in the three villages.

7203. Three thousand fishermen, or three thousand inhabitants?—Three thousand inhabitants.

Mr. Pinkerton.

7204. Have you any knowledge of trawling yourself?—None whatever.

7205. Can you form any idea whether trawling is injurious or beneficial?—Yes. I thought you meant had I any knowledge as a personal experience. I never saw a trawl net shot, but I am perfectly convinced it is a great loss to the country to allow it to go on inshore, because I know there is a bay close in which when I was a young man was mostly full of flat fish, and as soon as ever the trawlers came there there has been nothing caught at all in it. That is flat fish I allude to, haddocks do not come in so close.

Mr. ALEXANDER DUTHIE, called in; and Examined.

Mr. Buchanan.

7216. ARE you a fisherman at Port Errol?—Yes.

7217. Do you come here to represent the views of the Port Errol fishermen, and the Boddam fishermen?—Yes.

7218. Are they large fishing communities on the east coast of Aberdeenshire, between Peterhead and Aberdeen?—Yes.

7219. Have the Boddam fishermen given you

Mr. Pinkerton—continued.

7206. Do you object to sailing trawlers, or is your objection against trawlers of all descriptions?—It is against the beam trawler. I am against nothing that will bring money into the country, but it is the beam trawler I am against, and I think it should be put a limit to for the reason that it brings the seed up. The long lines do not bring that up, neither do the nets.

7207. Are you against a close season?—Yes, for the catching of herrings.

7208. Is your objection to the close season for the immature fish that you can get a home market for it?—Yes.

7209. Of course you are aware that the home market would be absolutely inadequate to deal with the catch of fish during these seasons?—I think those would go to make up for it. We would lose a heap of fish that is ready early in the season by not catching them.

7210. I suppose maturity depends very much on the season, does it not?—Entirely, I think so; it is something like the fruits of the earth. If it is a warm season the fish soon come to maturity, and if it is a cold year they are longer.

Mr. Heneage.

7211. I understand you that you appear for those in your own neighbourhood to represent the views that you are against a close time for herrings, and that in your opinion the real remedy is cheaper rates on railroads?—I represent the majority who are of that view.

7212. You come here to represent that view, do you?—That is what I come here to represent. It is my own view too.

7213. In representing your own view, you are representing the view of the whole locality, are you?—I know I am doing that for the majority of the fishermen of the coast.

7214. As against the view put forward by some other Scotch representatives that there should be a close time?—Yes.

7215. And one of your chief reasons is that the question of immaturity cannot arise with regard to herrings, because maturity varies so in different districts and in different seasons?—Yes, I believe there have been better fish caught already in Fraserburgh than were caught at any time at the end of July. I believe there were better fish caught on the 1st of this present month than there have been most years at the latter end of it.

Mr. Buchanan—continued.

a paper stating their views on the subject of close time; you will express their views on that subject, will you not?—Yes.

7220. The Boddam and Port Errol fishermen are by a large majority opposed to any close time for herrings, are they not?—Yes.

7221. Generally speaking on the same grounds that were given by Mr. Bruce, the last witness?—Yes.

7222. Do

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Mr. DUTHIE.

[Continued.]

Mr. Buchanan—continued.

7222. Do they think that a close time would do considerable damage to the fishing trade in these places?—That is my conviction.

7223. Is that the general conviction of the fishing community there?—Yes.

7224. On the grounds that we have heard that herrings come to maturity earlier in different years and in different parts of the coast?—I am quite sure of it. What I call a matured herring is when she has got ripe. They were filled with spawn the latter end of May this season. It depends a good deal as to the quality of the fish, on the state of the season, and I think myself it would be a great injury not only to fishermen, but to curers, and to the community at large to have a close time. Curers are prepared to buy them, and to pay a good price for them. I asked one curer what he gave on an average for his early first this season, and he said from 15s. to 16s., and he said he was prepared to buy any amount. I think when it is a benefit to fishermen, and a benefit to curers, and a benefit to the general public, it should not be closed. The fish is perfectly wholesome, perhaps will not stand salt for Continental markets, but for present use, they are as healthy and as good as you will get them at any season. There are complaints made about a close time, but I think there is a good deal in connection with the position the parties occupy themselves. They cannot accomplish two things at one time. They cannot be at Stornoway, and Shetland, and Fraserburgh, and Peterhead. They would suggest that those who are at Fraserburgh and Peterhead should wait patiently until they had accomplished their fishing, and then they would be able to come down and very likely get a richer yield. Now what we want is this: we want an open time to fish, because it is paying fishermen, it is paying curers, and it is satisfying the consumers. So that Boddam and Port Errol, so far as I know, do not go in for a close time at all, but an open season.

7225. Do you think, to a certain degree, there is a selfish interest at the bottom of a claim for a close time?—There is no mistake about it, because, according to the accounts of the last meeting here with some of the fishermen from Aberdeen, they failed to take the fish because they were not dear enough; one of them said 2s. 9d. per crane. I do not care if I get 2s. 6d. to-day if I get 30s. to-morrow; that will stand good. So I hold the thing is paying the fishermen right enough, and the public are getting the benefit and ought to get the benefit of it.

7226. Would you be against a close time on the ground of the loss that the fishing community might suffer from enforced idleness?—Yes.

7227. The Boddam people in the year 1887, owing to a quarrel with the fish curers, stayed ashore, did they not, for about 10 days or a fortnight during the time they are now catching so many fish?—Yes; it reminded me of something like a strike. They could not get what they wanted, and, because they could not get what they wanted, they stopped ashore and sat down idle. Then, when they could make nothing out of it, they commenced to prosecute the herring fishing, but the fish were gone. They got a close time imposed by themselves.

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Mr. Buchanan—continued.

7228. And that was just about the time of year when it is proposed to impose a close time, is it not?—Yes.

7229. Have you anything more to say, on the subject of close time for herrings?—I have heard a discussion about the mesh of the net; there is something strange there too. You may go out with the same fleet to-day and catch inferior fish, and you may go out to-morrow with the same fleet and catch superior fish; I think that is a thing that will cure itself. When fish at a particular season are brought in inferior they fetch inferior prices, and if men catch inferior fish they will have to suffer for it. With regard to the mesh, I will leave that to you.

7230. Is the statement that no herring nets shall be manufactured inferior in the mesh than 32 rows per yard of No. 45 cotton, 31 rows per yard of No. 40 cotton, and 30½ rows per yard of No. 36 cotton, the general desire on the part of the fishermen?—Yes, I know they are doing it.

7231. In asking for that do you represent the general opinion?—Yes.

7232. What size of mesh would that be?—I could not exactly say.

7233. What is about the size of your present mesh?—It is fully an inch.

Mr. Heneage.

7234. What is the size of the mesh you fish with now?—Some have them 32 and 33 rows per yard.

Mr. Pinkerton.

7235. How many inches would the mesh be?—An inch good.

Mr. Buchanan.

7236. There is nothing more with regard to herring you would like to say, is there?—No.

7237. Then with regard to the question of trawling, what have you to say on that subject?—I have this to say: as far as my own knowledge is concerned, in the year 1870 I was fishing in Boddam, and I made it a practice to come home every Saturday and to shoot a line in the sea. Every Monday morning I went out and got between 300 and 400 on a line in the territorial waters. Then I think it was in 1878 I shot again on the same part of the territorial waters and I was getting on the same length of line from 14 to 15 score on the line. To-day if I were to put out 12 lines in the same waters, I would not get one-half what I got on one line then. I remember perfectly well, when I was a young man, old men baiting a piece of line, carrying it away down its length along the edge of the sea upon the sand beach, letting the tide cover it and getting from 10 to 12 score of large haddocks, any amount of cod, any amount of turbot, any amount of plaice, and to-day, I may say, it is clean. Now, I saw a remark in the papers about the good trawling did to line fishermen; that is a mistake. It was said they stirred up the fish to take the hook. The hook men never required that action to be done, because the hook descends. I think what the chain does in stirring up the fish is to put them into the net. I am strongly of opinion that the fish is declining on our coast. When they first began

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Mr. DUTHIE.

[Continued.]

Mr. Buchanan — continued.

began to trawl, it was with an old boat sloop rigged, then they came to a sort of smack, then to a little steamer, and they tell me the fishing is always getting better and always extending. They have gone from Aberdeen Bay to Iceland to take fish which is inferior, and I think it is sad to think if men could supply market with wholesome fish in Aberdeen Bay that they should run away to Iceland for fish which is inferior. The thing stands together; if they are to keep up the supply, they have to improve their speed. They are getting larger boats, because at the present rate of things if the fishing is carried on in the same way, the whole business will suffer upon our coasts. It is the view, I know, of the people that the territorial limits are too little.

7238. Would you extend the territorial limits? — Yes, we think they should be extended from 10 to 12 miles.

7239. Do you think if the Fishery Board had jurisdiction over 10 miles for fishing purposes, and could, if necessary, prevent trawling within that limit, that that would probably meet the views of the line fishermen on your coast? — Yes.

Mr. Pinkerton.

7240. Would you measure your suggested line from headland to headland; would it be 10 miles from the inner coast or 10 miles from the headland? — I did not take it from headland to headland. I meant 10 miles round the coast.

Mr. Buchanan.

7241. At the present moment the Fishery Board has power to close large bays, such as Aberdeen Bay, and it is closed at this moment to trawlers, is it not? — Yes.

7242. Your statement is in direct contradiction to the statement we had from Baillie Pyper that the trawlers have improved the fishing, is it not? — Yes.

7243. You do not think the trawlers would leave Aberdeen Bay and go to Iceland to fish, if there was still fish to be caught in Aberdeen Bay, do you? — Not likely.

7244. Has it been within your experience as an old fisherman, at Port Errol and Boddam, on the east coast of Aberdeenshire, that the trawlers have continually fished that coast, and the great diminution in the catch of fish there has been since the time the trawlers came in large numbers? — Yes.

7245. Within the last 10 or 12 years? — Yes.

7246. The remedy you would be most in favour of, would be, would it not, the extension of the territorial limits for fishery purposes? — Yes.

7247. Have you anything to say about the observance of the present restriction on trawling or about sea police? — With regard to them they have just been allowed to do as they like. A few nights before I came here I was looking at one at midnight not over a mile off if it was that from the coast fishing, and no one to look after him.

7248. You could not see his number, could you? — No.

Colonel Cotton-Jodrell.

7249. Was this a steam trawler? — Yes.

Mr. Buchanan.

7250. Was there any notification made of it to the Fishery Board? — No, I believe not. I simply said to the rest of the people that is one of the trawlers again.

7251. Do you think that is not an unusual occurrence? — No, they are seen many times.

7252. Is the "Jackal," or any of the Fishery Board boats, ever to be seen on your coasts? — Well, she may be at times, but I do not know, I have never seen her. I hear she has taken one or two in Aberdeen Bay.

7253. Do you agree with the other witnesses, that there is a general feeling round your part of the coast of Scotland, that the sea police is insufficient? — Yes, insufficient, they are not able to do the work they have to do.

7254. Therefore, do you think an enlargement of the sea police and making it more efficient is urgently wanted? — Yes, that is what we want.

7255. Particularly if we extend in any way the functions and powers of the Fishery Board? — Yes.

7256. Have you anything to say about harbours? — I do not know if I might be at liberty to say anything about the harbours. We have a little harbour, it is not sufficient, but yet it has been a benefit to the place. It belongs to his lordship Lord Errol, and whether he would be open to do anything as to that I do not know; I would not like to approach him.

7257. All I meant to ask was whether there has been a feeling along the coast that the fishing harbours are insufficient? — Yes. For instance, this winter it was rather squally, with gales of wind from the north-west, and the little places that had no harbours on the south side could not get to sea for a number of weeks. They were making a living with the big boats with us, but they were making nothing in the small boats there; they could never reach where the fish were. They could get no harbour for the large boats there so they had to want. That is a place about two miles of the south side of Port Errol. There is another place a few miles south of that, and then there is Colliston.

7258. Is the grievance felt very much there? — Very much.

7259. Is there any other matter you would wish to speak about? — No, I think not.

Mr. Renshaw.

7260. You gave us evidence with regard to the line fishing, comparing two periods, about the number of fish you used to catch with a line, but you did not tell us what the two periods were? — I cannot tell you correctly. The first period was when I went to sea as a lad. When I went to sea first I went with my father, a little boy 12 years of age, and I would suppose (I do not remember exactly now the number) but there were from 80 or 90 to 100 scores of large haddocks in the boat. That was a common occurrence every year almost; we will take it as an average of five score fish to the cwt., and we got sometimes 100 score, sometimes 130, sometimes 120. That was a common thing. Now, with more lines, and better equipped in every way, we only get one, two, and three score.

7261. At that early period you remember when you first went fishing, there were very few line fishermen

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Mr. DUTHIE.

[Continued.]

Mr. Renshaw—continued.

fishermen there on that coast, were there not?—A good few; they have not increased so much since then. They have increased with us.

7262. Speaking of your own locality, what do you say? would it be correct to say you have ten times as many line fishermen as you knew there were there when you were a boy?—No, not ten times as many.

7263. Eight times as many?—I think there are about 60 able-bodied men.

Mr. Pinkerton.

7264. How many men had you 50 years ago?—I am not clear, because they used to have two men and a boy, only, the boats being small.

7265. In your opinion with regard to trawlers, it is all fish that comes into their nets, is it not, they sweep all before them?—That is my opinion.

Mr. Renshaw.

7266. I have one other question to ask you. Have you any railway communication to Port Errol?—Not yet.

Mr. Renshaw—continued.

7267. Would it be of very great assistance in developing your trade if you had one?—Yes, no doubt about it.

7268. Have you any prospect of getting one?—Yes.

Mr. Buchanan.

7269. The Bill has passed this House for it, I think, has it not?—Yes, I understand so. That will mean a great deal.

Mr. Heneage.

7270. You, like the other witnesses, are against a close time, are you not?—Yes, I am against a close time.

7271. And in favour of a larger extended territorial area, are you not?—Yes.

7272. And more police supervision?—Yes.

Colonel Cotton-Jodrell.

7273. How far do you live from the last witness; how far is Port Errol from where the last witness came from?—It would be about 25 miles from Port Errol; it is more than that by rail.

Thursday, 20th July 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Harry Foster.

Mr. Marjoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.

MR. MARJORIBANKS IN THE CHAIR.

Mr. HUGH MUNN, called in; and Examined.

Chairman.

7274. Do you come from Tiree?—Yes.

7275. Are you interested in the fisheries there?—Yes.

7276. What is your employment?—Mostly fishing.

7277. Buying or catching fish, do you mean?—The hawking of the fish that we can catch.

7278. What are the principal fish that you catch?—Ling and cod.

7279. How do you catch them?—On the long line.

7280. Where do you catch them mostly?—We used to catch them round the coast; if I had the chart I could show you. But this year we had to go a long way away to the back of the Skerryvore Rock, to keep clear of the trawlers, who were taking all of our lines away on the banks where we used to fish.

7281. Are there many trawlers fishing there now?—I see some days 14 and 12 and six, and so on.

7282. Are they steam trawlers?—They are steam trawlers; there was only one trawler there the day I left.

7283. Where do these trawlers fish from?—The most of them from Hull, I think.

7284. Where do they land their fish?—I do not know.

7285. Have you any complaint to make against them besides the damage they do to your lines?—Of course; I think that they are spoiling the beds of spawn. The fish comes on our coast to spawn on the clean banks, and that is the very place where the trawlers can trawl.

7286. Do you mean the cod and ling come there to spawn at certain times?—The ling do.

7287. Do you know, Mr. Munn, that the spawn of ling floats in the water?—Indeed I could not hardly say whether it does or not, but I see many a time our nets are as thick as anything with spawn.

7288. Do you know whether it is ling spawn?—I do not know whether it is ling or herring or cod spawn. I do not know what sort of spawn it would be.

Chairman—continued.

7289. How far out to sea is this bank where you fish?—From three to six and seven miles. We are going out three or four or five, or sometimes six, miles beyond Skerryvore Rock.

7290. How big is your boat?—My boat is 40 feet keel.

7291. How many men have you on board?—Six.

7292. What is the length of your lines?—A great many lengths; we do not shoot the same quantity every day, but according to the bait we get; sometimes the bait is scarcer than at others.

7293. Do you use herrings for bait, or what do you use principally?—Eels and flounders, and the regular bait.

7294. You use fish bait, do you?—Yes.

7295. Do you not use mussels?—No, mussels would not do for that, mussels will do for haddock but not for cod and ling.

7296. For cod and ling do you use pieces of other fish?—Exactly.

7297. What would be your proposed remedy for these evils which you complain of?—That is a question I can hardly answer.

7298. We want you to recommend something to us, at any rate, for our consideration?—The only remedy is to close the Minch altogether against steam trawling; or six months' close time.

Dr. Clark.

7299. Do I understand you to mean that you want a close time for the trawlers for six months?—Yes.

7300. And not allow them to trawl at all for six months; is that so?—Yes.

Chairman.

7301. And you want the lines to be stopped also for six months, too, I understand?—Yes.

7302. Which six months would you take?—From February to July.

7303. In fact, you would take the best months of

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Mr. MUNN.

[Continued.]

Chairman—continued.

of the year and leave them the worst, would you not?—That is the time we fish.

7304. What do you fish for in winter now?—We fish close in shore.

Dr. Clark.

7305. Have you any lobster fishing in winter? Our coast is closed for fishing lobsters in the winter time; in the winter time we close it.

Chairman.

7306. In fact, you do not do much fishing in the winter at all, do you?—No.

7307. Then how do you expect the trawlers to fish in the winter off your coast?—They have better boats.

7308. Do the trawlers catch the same sort of fish as you do; they do not catch cod and ling, do they?—I cannot say what they catch. It is not altogether for the fish they catch; I would allow them to catch as many fish as they can, but the evil is this: they are taking away our lines which we put down, and we cannot catch them with our boats; our sailing boats cannot go near them.

7309. Have you lost your lines on any occasion?—No, but some others have lost them. We have kept away from them at a place where they cannot trawl, at the Skerryvore Rock, where there is a rough, rocky ground. But there are no men in Tiree who are working on such a scale, and with such a big boat as mine. There is one other boat as large as mine, though not engaged on the same banks.

7310. Can you tell me of any cases you know of, of lines having been destroyed by trawlers?—Three different boats, on separate dates.

7311. How long ago was that?—At the beginning of last month they lost their lines. I think the first one was inquired into, and the Fishery Board official from Oban inquired into it.

7312. Was nothing done to bring the trawler to account for what damage he had done?—I think they have got a little compensation already, and they are expecting some more.

7313. What was the name of the trawler that did this damage?—I do not know, I am sure.

Dr. Clark.

7314. There were three trawlers, I think, did it, were there not?—Yes.

7315. You sent the facts to Mr. McFarlane, did you not?—Yes.

7316. He has brought them before the Lord Advocate, and the Lord Advocate is now considering the question of prosecution, is he not?—I did not take much interest in it, and I cannot give you a satisfactory answer about it.

Chairman.

7317. But some compensation, you think, has been obtained?—Yes, they got 1*l.* a piece, I think, and I do not know what they have put in for the last amount claimed, I think it is 8*l.* or 10*l.*

7318. Do they hope to get that?—Yes.

7319. Do you ever go to fish on the Ballantrae banks for herring at any season of the year?—No; we fish herring, but it is not on our own coast; we go to the lochs in the north.

7320. Have you anything to bring before the

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Chairman—continued.

Committee with regard to the herring fishing?—No.

7321. The only thing you want is that some means should be devised for preventing the trawlers injuring your lines, I understand?—Yes; to keep the trawlers from our lines.

Dr. Clark.

7322. What would be the value of the nets or lines that were destroyed that the men got 1*l.* for?—I could tell that if I knew how many lines were destroyed, but I do not know that I could tell you without.

7323. Is it your only complaint that the trawlers destroy your lines?—Yes; and we cannot put our lines on the bank where we like to put them at the beginning of the season. We would like to get a chance nearer to us of putting our lines down, but we have to go out far, and perhaps further than the Skerryvore, where there are rocks and rough ground where they cannot trawl, so, perhaps, it would be a week, and sometimes ten days before we can get to our lines there in coarse weather.

7324. May I take it that this is your position: On the sandy banks, where you have been in the habit of fishing near your home, there the trawlers come and interfere with you?—Yes.

7325. And that you are compelled to go further away out to the rocky ground?—Yes.

7326. And then you are sometimes prevented going to take your lines up for eight or ten days because of the bad weather?—Yes.

7327. So that you want to have the same fair chance on the sandy banks as the trawlers, do you?—Yes.

7328. But if you put down your lines now, they are destroyed?—If you put them down now you do not know whether you would get them to-morrow.

7329. How long have you had trawling round about Tiree?—They commenced last year.

7330. Did they only commence last year?—Yes; we never saw a trawler on our coast till last year.

7331. You have no complaint, have you, that, as the result of the trawlers coming there, you are not getting the fish you used to get?—Flat fish is greatly decreased since the steam trawling began; especially this year.

7332. You have not had time to find out, I suppose, if they only came last year?—No, I cannot say anything about that.

7333. Your suggestion of remedy, I understand, is a close time for them?—Yes.

7334. That they should have certain times, and you should have certain times?—Yes.

7335. Would you take it month and month about?—No; our season for long lines is February, March, April, May, and June.

7336. The spring and summer is your great fishing time, is it?—Yes.

7337. Do you want to be protected against the trawlers during that period?—Yes, they should not come on our banks at that time.

7338. Do you mean the banks you have been frequently fishing?—Yes.

7339. Where are your fish sent to?—Generally to Glasgow; we are carrying them now.

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7340. Do

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Mr. MUNN.

[Continued.]

Dr. Clark—continued.

7340. Do you send any fresh fish to market?
—No.

7341. Do you only send cured fish?—Yes.

7342. How often does a boat go to Tiree?—
We could get away every second day with the mail.

7343. It would be expensive sending by the mail, would it not?—Yes.

7344. Can you afford to send the cured fish by the mail?—No; we have to keep the fish beside us until we have two or three tons to send away by the other steamers that go straight to Glasgow.

7345. How often do the steamers go from Tiree to Glasgow?—There are two which go once a week each, but I have got another steamer to take away my fish to Glasgow this year. We used to pay 12s. 6d. a ton, and they wanted to charge this year 15s. When I went to the steamer the clerk of the freights told me it was 15s., and I told him he would not get my fish, so I turned to and took it to Glasgow myself with my own smack, and I sent for another steamer, a little steamer which comes to Bowness and round there, and she called for my fish.

Chairman.

7346. Did she take it at 12s. 6d. a ton?—
Yes.

Mr. Renshaw.

7347. Was that the “Dunara Castle”?—
Yes.

7348. Did they give you any reason for raising the rates?—I do not think so, but I told them if they were going to make themselves objectionable to the poor fishermen they would not get my fish.

7349. Was it not the fact the “Dunara Castle” lost the subsidy which it has been having for a certain number of years?—I do not think it.

7350. Did you not hear of that?—No.

7351. It was the case, and I understand on that account there was difficulty in connection with the “Dunara Castle” calling at all the ports it had hitherto called at; do you know that?—No; the three companies agreed to raise the rates for the fish.

Mr. CHARLES DUNNETT, called in; and Examined.

Dr. Clark.

7352. ARE you Provost of Wick?—Yes.

7353. Have you been in business there for many years?—Yes.

7354. Have you been asked by the Town Council of Wick to represent the fishing industry before this Committee?—That is so.

7355. Have you also been a fish curer?—
Yes.

7356. And intimately connected with the fishing trade for many years?—Yes.

7357. Have you been constantly in communication with the fishermen about all their grievances?—Yes.

7358. Is there a strong feeling amongst the fishermen and all connected with the trade that the inshore fishing is being destroyed?—A very strong feeling, in fact it is felt to a very large extent.

7359. How long have you had trawlers down on the Wick coast and the Moray Firth?—They have been there more or less for, I suppose, 10 or 12 years.

7360. Have you observed as the result of this that some of the fishings have been falling off?—We have observed a falling off to a very large extent during the last few years.

7361. Is that because in the last few years the trawling has been greater?—Yes.

7362. And are you now quite overwhelmed with trawlers?—Yes.

7363. Where you only had them occasionally now you have them night and day, and Saturday and Sunday, do you not?—Yes; night and day, Saturday and Sunday.

7364. What are the fish that you catch in your Wick district?—There is the herring fishing,

Dr. Clark—continued.

the haddock fishing, and cod and ordinary round and flat fish.

7365. When is your cod season?—Generally from January to the middle of February or March.

7366. During that fishing for cod have you observed that year after year your cod has decreased until now you scarcely get any?—That is about it.

7367. And that practically your cod fishery is destroyed?—It is very much destroyed.

7368. Do you think that is due to the trawling?—I do; and that seems to be the general impression of the fishermen.

7369. While men went out and got plenty of fish seven or eight years ago, now they cannot get practically any at all, can they?—Quite so.

7370. Where they got hundreds, they now may only get one fish, do they not?—Yes, and perhaps not that; and that is the experience of the most intelligent and active fishermen we have in the place.

Chairman.

7371. In what class of fishing has there been this falling off?—I am referring to cod only just now.

Dr. Clark.

7372. Do you think that is due to the trawlers?—That is the firm opinion, either to the trawlers or over-fishing in some way.

7373. Have you had a great increase in the number of boats in your cod fishing during late years; I mean with regard to line fishermen?—
Yes.

7374. Are

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[Continued.]

Dr. Clark—continued.

7374. Are there more line fishermen now than you had five or six years ago?—There are a large number of Banffshire boats which come to our coast for the cod-fishing and fish very largely there.

7375. What do you think is the cause of the decrease; do you think it is due to the over-fishing of the line men, or that it is due to the trawlers?—It is due to the trawlers; I think there is not the least doubt about that.

7376. And upon the banks where you used to get plenty of cod you can now get scarcely any, can you?—Scarcely any.

7377. It is stated that the cod swim higher than the trawl of a trawler, and that the trawl of a trawler is generally below that portion of the water where the cod swim in; do you know that practically?—I do not know that; that is a thing I am not clear about, but there is one thing we know, and that is that the trawl takes everything, cod, ling, flat fish, haddocks, and all.

Commander Bethell.

7378. Does a trawl get much cod?—Yes.

7379. We have had a great deal of evidence that cod is very little caught in a trawl?—Everything is caught.

Dr. Clark.

7380. The evidence of Baillie Pyper was that they got more round fish than flat in their trawls, which is quite different to the experience of the men in the south?—When the trawlers have been landing the fish at Wick, I have seen an enormous quantity of cod landed; every kind of fish in fact.

7381. You have also a haddock fishery, have you not?—Yes.

7382. When is that carried on?—That is a fishing which is going on all the year round, until the last few years, when they have been almost swept away.

7383. Just like your cod fishery?—If possible worse.

7384. Do you know that since last year, nearly twelve months now, the Moray Firth has been scheduled against the trawlers for three miles?—Yes, I am aware of that; in a line from Duncarsby Head, I understand.

7385. Do you think that the trawlers are obeying that law of the Fishery Board?—They are obeying it more in the breaking of it than in the observance of it. They are still trawling there; they are trawling within a mile of the shore.

7386. Then the sea police is not sufficient to prevent it, is it?—Not nearly sufficient.

7387. Have you had any cases brought before you as a magistrate, of trawling?—No, those cases are generally brought before the sheriff.

7388. Have there been some cases in Wick?—Yes; my opinion is that the trial of such cases does not prevent it in the least. If the men see a good piece of fishing ground where they can get a good haul they will run the risk of being taken now and again, and fined 5*l.*, 10*l.*, or 20*l.*; they do not care twopence, and they are not disturbed at all by breaking the law if they can get 100*l.* of fish.

7389. Since the law against trawling within 0.93.

Dr. Clark—continued.

that prohibited area has been put in force, have you seen any good results. Are the young fish more plentiful than they were before?—The young fish are commencing to come back. This last year we had a number of haddock, but the year before that they were almost extinct; this last year there has come a race of haddocks that the line fishermen have been catching, not much better than what we call sillocks.

7390. What have you to say about your herring fishery, which is your principal fishery?—A good deal has been said about a close time, and one thing or other on the herring fishery question. I say you may as well regulate the cutting of corn as the catching of herrings by Act of Parliament.

7391. Do you mean it depends upon other conditions?—Yes, good weather and bad weather makes all the difference. In a cold season herrings are never ripe so soon as they are in a good year like this.

7392. Do you believe in the theory that the herrings go right round the coast?—I do.

7393. Do you think it is the same shoal of herrings which they have in Stornoway that you afterwards have at Wick, and which go on to Fraserburgh?—Yes.

7394. If so, how do you account for the Fraserburgh and Peterhead fishing going on at the same time as your fishing goes on?—I do not mean to say that at one part of the year there is no herrings in one spot, but I say the shoals come as a rule quite two or three races during the year from one side to the other, and as a rule we always find the herrings coming from the north round. We have them a few days opposite Wick, get large takes of them, and then in a few days they are off.

7395. Do you think trawling has had any effect upon your herring fishing?—The general opinion is that it has been hurtful to the herring fishing.

Chairman.

7396. In what way?—In breaking up the shoals when they are coming in on the coast.

Dr. Clark.

7397. And your herring fishing has been less since the trawlers have been there than before, has it?—Yes, very much less.

7398. But this year, since the trawling has been prohibited, are you getting herring better?—There has been a marked improvement. Herrings are being caught where there has been no signs of them for the last two or three years.

7399. That is in close to the shore where the trawlers have been prohibited from trawling, is it not?—Yes.

7400. What is your remedy for this kind of thing; what would you suggest to the Committee ought to be done?—I would certainly put an end to the trawling within a very much larger limit than the three miles spoken of. I would have the limit for trawling to be not less than ten miles.

7401. Why ten miles?—Because within the ten miles the ground is generally occupied by line fishermen and by herring fishers, and it is a ground

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Dr. Clark—continued.

ground where, in former years, you always could make a good fishing. Since the trawling has been on, upon that ground there never has been a steady, what we may call in-shore fishing. This is the first year we have had any results for a long time.

7402. Have you any foreign fishermen coming into your port with fish, or is Wick confined to Scotch and British fishermen?—Scotch fishermen.

7403. There are no foreign boats coming in?—No; you may see a Dutchman in now and again, but not to sell fish.

7404. Do you think it would be sufficient to increase the distance from three miles to ten; would that protect the interests of the line and net fishermen, and would it take in also all your breeding banks and feeding banks?—No, it would not do that.

7405. Then how would you prevent the breeding banks and the rearing banks being interfered with?—That is almost a scientific question which it is difficult to answer, but I should certainly be pleased to see the limit for trawling fixed at not less than 10 or 12 miles.

7406. Do you think that the fines that are imposed are sufficient?—No.

7407. What would you say about that; do you think the fine should be 100*l.* to begin with, or what do you think the fine ought to be?—I think the fine ought to be to confiscate the ship when they were caught breaking the law.

7408. To confiscate the first time?—Well, perhaps a heavy fine the first time, and the second time I would take the ship.

7409. Is there any other grievance they have in your district beyond the action of the trawlers?—They have no special grievance besides. The trawlers are the real grievance so far as the fishing is concerned. There are a good many fishermen that are of opinion that owing, I suppose, to the trawling on the Banffshire coast the Banffshire boats frequent the Caithness coast more for cod fish, because it is a good place for cod fish, and some of them go the length of thinking that it is possible even with too great a line fishing fleet to fish up the ground too much.

7410. Are you in favour of retaining the brand?—Yes; I would retain the brand.

7411. Would you allow immature fish to be branded and cured?—No, certainly not.

7412. You would prevent them either being cured or branded, would you?—Yes.

7413. But would you sell them fresh?—I would sell them fresh. I would have no objection to fishermen taking fish when they could get them so long as they disposed of them fresh, but I would be decidedly opposed to curing immature fish.

7414. Do you complain very much about the railway rates?—The railway rates are the great drawback to the fresh fish trade.

7415. What do they charge from Wick to Manchester or London?—3*l.* to 4*l.* a ton.

7416. What do they charge for other things; what do they charge for bringing salt up, say, from Cheshire?—About 28*s.*

Mr. Renshaw.

7417. The one is by passenger train, is it not, and the other by luggage train?—A special train, they are very glad to get a special train put on.

Dr. Clark.

7418. What do they charge for potatoes?—I am not exactly sure what the rate is for potatoes, but I know it is comparatively little compared with the fish rate.

7419. £3 a ton, you say that is?—Yes, that is considered a special rate. I may say about trawling, even since the limit from Duncansby Head has been drawn, a good deal of trawling has been going on off the Wick coast. Here is one instance: we had no word of trawlers being interfered with for fishing there, but last spring one of our Wick boats was missing; in fact, it was lost with a crew of 11 men, and no trace could be got of them. We are supposed to have gunboats watching the fisheries, but there was no trace of them on the coast at all for giving assistance to the boats in the storm. After two or three days had passed the convener of the county and myself sent an urgent request to have one of the gunboats sent down to search the coast. They came down on the Sunday morning and went away out. They saw nothing of the missing boat, but they caught a trawler fishing comfortably inside the prohibited limit, and that is the only case of their being interfered with that I have heard of since the last line was drawn. They can catch them any Sunday if the gunboats like to come there.

Colonel Cotton-Jodrell.

7420. What was the fate of that trawler; was there a fine inflicted?—Yes.

7421. How much?—Either 10*l.* or 15*l.*

Mr. Renshaw.

7422. In reference to what you say about the fish and the railway rates, you said, did you not, the rate was from 3*l.* to 4*l.* a ton?—Yes.

7423. What is the price of that class of fish at Wick per ton?—Perhaps it may happen to cost 2*l.* a ton, or it may happen to cost 8*l.* a ton, just according to the value of the fish.

7424. So that, taking it at 4*l.* a ton, it is less than a halfpenny per lb., which is not a great deal to carry the fish a great distance when you consider the difference between the price of the fish at Wick and the price in the English markets, is it?—Well, I have known them send fish away; I know one man the other day sent away 20*l.* worth of fish; he got 2*l.* 15*s.*, and all the rest went in carriage.

Colonel Cotton-Jodrell.

7425. Do you object to immature herrings being caught and sold as fresh fish?—No.

7426. Why do you draw a distinction between immature fish sold fresh and being cured?—Of course, they may cure them and put them into the market, but they spoil the market.

7427. Why?—Just because they go in, and there is only a certain quantity of fish wanted. These bad ones go in and fill the market, and they bring down the prices.

7428. Does not the same objection apply to them

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[Continued.]

Colonel Cotton-Jodrell—continued.

them when they are sold fresh?—No; when they are sold fresh they are generally sold from day to day, and then people know pretty well what they are doing, but when they cure them the season's stock is, perhaps, made up before they begin to dispose of them, and then they are all put into the market, and, as a rule, these immature fish are hurried away first, so they fill up the market; they lie there and keep down the price of properly-cured stuff when it comes.

7429. Is it not the fact that there is a great exportation of these immature fish to Germany?—That is the market, I mean.

7430. Are you alluding to that market?—Yes; and it is there it is doing the damage. The fresh fish that are taken never spoil the cured market; it is the work of a day, and they are sold for good or bad.

7431. Then you do not think that the actual catch of immature herrings spoils the fishery, do you?—I do not think so to any material extent.

7432. Would you hold the same views with regard to flat fish?—As to the flat fish I would have no hesitation in letting them fish with a line as much as they like, but when they scrape up everything at the bottom of the sea I say it is soon turned into a place not worth fishing on.

7433. Your feelings are decidedly against the trawlers, I understand?—Yes, I am decidedly against the trawlers, there is no doubt about that; we are seeing it more and more every year, on the in-shore grounds, at any rate.

7434. Is that particularly with reference to steam trawlers?—Yes.

7435. Sailing boats you do not object to so much, do you?—Sailing boats do not do so much damage.

7436. With regard to the 10 or 12-mile limit, would you measure that around the coast?—Yes.

7437. Not outside the bays, from point to point?—Certainly, I do not mean to go inside. I would have a straight line drawn from headland to headland.

7438. And then make it 10 miles beyond that, do you mean?—Yes, 10 miles beyond the points.

Commander Bethell.

7439. Should you object to your locality being taxed in order to support a sea police for the benefit of your fishermen?—Yes; I think that as a fishing population we deserve to get the protection without being taxed for it.

7440. But should you object to a tax being levied upon your locality in order to provide a police for the protection of your fishermen?—Yes, I think that would be a retrograde movement on the part of the Government.

7441. Do you think the Central Government ought to pay for your special industry being looked after?—I think so; it is a national industry.

7442. Should you object to Scotland being especially taxed by the Scotch Fishery Board, say for the purpose of providing sea police?—Yes, I would object to that.

7443. Are you aware that in England the fishery districts tax their districts for the purpose

Commander Bethell—continued.

of providing a police, or can do so, and in one or two cases do so?—I would not say that, I would personally be against it if it came to that, but I must say I think it is a thing that ought not to be.

7444. Are you aware that Scotland is the only one of the three countries for which a police, to some extent, is provided by the Central Government?—I believe that is so.

7445. Then, does it not occur to you that in local industries it is much fairer that the people of the locality or the people of the country, say, should pay what is necessary for the protection of that industry; you would want, would you not, to have the sea police immediately under the local authority, and not under the Central Government?—I think I would keep them under the Central Government.

7446. Do I understand you to say you would prefer having a police for the sea fisheries under the Central Government over which the Local Authority has no control whatever?—I would like to see the Fishery Board have control of them.

7447. Then if you would like to see the Fishery Board have control of the Scotch Fishery Police surely you would like the Scotchmen to pay for it would not you?—I think it is a question that will not be likely to be pressed against us. All the east coast of Scotland, and the west coast too I may say, are composed of fishery districts.

7448. Is not the east coast of England also a fishery district?—Yes.

7449. Do you think it would be fair for the locality to pay half the cost of the police and the Central Government the other half, in the same way that land police are now provided?—I would not object to that rather than have to want them, but we Scotch people are so patient and are not exorbitant in our demands that I think we might reasonably expect the protection we want without any tax being put upon us.

Mr. Buchanan.

7450. Do not you also think that we in Scotland at present pay a good deal more than our share of Imperial taxation. But apart from that, at the present moment the sea police is in the hands of the Fishery Board of Scotland with regard to direction, and the payment is through the Admiralty is it not?—Yes.

7451. One vessel I believe belongs to the Fishery Board and the other two to the Admiralty?—Yes.

7452. Would you be in favour in the future of the direction of the sea police being put into the hands of the Fishery Board?—Yes.

7453. And the expenses of it being paid as they are at present out of the Imperial Exchequer?—Yes.

7454. Do you think that as hitherto we have got such sea police and inefficient sea police from the Imperial Exchequer so in the future also we should get that charge maintained and an efficient sea police provided for it?—That is so.

7455. Is it one of the great grievances that the restrictions at present imposed upon various

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[Continued.]

Mr. Buchanan—continued.

modes of fishing and trawling in particular are not strictly observed owing to the insufficiency of the sea police?—That is the case.

7456. Do you feel that up in your part of Scotland?—Yes, that is really what we do feel. I am perfectly satisfied that it is the wish of the Fishery Board, and I have no doubt the wish of the Government, that we should be further protected, but the means at the disposal of the Fishery Board are actually insufficient for the protection.

7457. We have had evidence to that effect from the Fishery Board itself?—Yes.

7458. You said you were opposed to trawling, is that on the ground of the destructive character of that mode of fishing?—Yes.

7459. Do you consider that the limitations already imposed upon trawling have been beneficial with regard to the three-mile limit and the closing of the Moray Firth?—Yes.

7460. And on that ground would you be in favour of the extension of the territorial limit to something like 10 or 12 miles?—Yes.

7461. In order to enclose the principal grounds where the small fish and young fish are, and protect them against the trawlers going backwards and forwards?—Quite so.

Chairman.

7462. You are a fish-curer yourself, are you not?—Yes.

7463. Do you cure all sorts of fish; you do not confine yourself only to herring do you?—Principally to herrings, but I may say I am interested in all kinds of curing, fishing, and the trade of the place.

7464. You told us that practically the prohibition of trawling had been a dead letter?—Almost a dead letter.

7465. Is that in consequence of the want of power to enforce the law?—That is so.

7466. And yet you told us that owing to the prohibition of trawling already, you have noticed great improvement in the fishing?—That is what I say, since this line was drawn from Duncansby Head.

7467. But if you have seen a great improvement in the fishery in consequence of this prohibition, the prohibition cannot have been a dead letter, can it?—Well, it is practically better than it was, but trawling is still being carried on. The restriction from Duncansby Head to Kinnard Head had a beneficial effect upon our fishing. It was visible, especially in haddocks, but now they are coming back again, and if not checked will soon be as bad as ever.

7468. But still you must either take up your first position, which is that the prohibition of trawling has been useless because it has not been enforced, or else you must take up the position that the prohibition of trawling has had good effects already?—It had good effects when it was put on at first. There was an improvement, but that improvement is being encroached upon, and they are coming back, and we find them within very near limits of the land occasionally still.

7469. I quite believe there are cases of encroachment, but my point is I think you are overstating your case, are you not, in saying that

Chairman—continued.

the prohibition has been a dead letter?—Well, perhaps that is so; there is some improvement but not to the extent required.

7470. You admit, do you not, that there is a great improvement in the fishing in consequence of it?—Yes.

7471. If there has been a great improvement in the fishing in consequence of the prohibition there must have been a cessation in the falling off or else the falling off was not due to the trawling?—To a certain extent I admit that, but what I say is the trawlers are still persisting in it though not to the same extent as they did formerly.

7472. What would be your views of the necessary measures you take to enforce the prohibition of trawling?—I would say at least there should be a couple of fast boats for the east coast and if it was well known that those fast boats were there and liable to pounce down on the trawlers at any time when they came within the limits, I have no doubt the practice would die out.

7473. Do you think two fast boats would be able to watch the east coast of Scotland?—It would do from Fraserburgh to Duncansby Head.

7474. That is not the east coast of Scotland is it?—No, but that is the part I am interested in.

7475. Now we are arriving very much nearer the point; you think it would take two fast boats in order to watch the Moray Firth, that is what it comes to, is it not?—Yes.

7476. Two or three?—No, two would be quite sufficient.

7477. Then at that rate how many do you think it would require to watch the whole coast of Scotland?—It would require another two. There are large pieces of the coast where the trawlers cannot work, and I say the east coast has more need of it than any other part, because the ground is more suitable for trawling and that is why they seek that part.

7478. I think from your answer I shall be right in assuming, shall I not, that you think for the east coast of Scotland there would be necessary a considerable fleet of fast boats say eight or 10?—Oh, no; not so many as that.

7479. But if two are necessary for the Moray Firth do not you think the Firth of Forth might have a boat to itself, do not you think the Berwickshire and East Lothian coasts might have a boat to themselves, and the Aberdeenshire coast might have a boat, a great many trawlers work there?—No, the two boats I suggest could take in the Aberdeenshire coast from Duncansby Head. I say a couple of boats would take the Aberdeenshire coast and the Caithness, and the Sutherland coasts perfectly well.

Commander Bethell.

7480. How many miles is that roughly?—At this moment I forget the exact distance by sea, but by land it is over 200 miles.

Chairman.

7481. At any rate do you think there would be necessary a considerable number of boats for the whole of Scotland?—Yes.

7482. Do you think the whole cost of those boats should be thrown upon the Imperial Exchequer?—Yes. Purely for the idea of fostering

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Chairman—continued.

fostering the fisheries, which I look upon as a national concern.

7483. Do you think the work should be thrown upon the Admiralty?—They have boats, and perhaps they are no better employed.

7484. Have they got a sufficient number of fast boats available for this purpose and to do the other work which is thrown on the Admiralty as well?—Of that I am not certain.

7485. It would be a considerable charge and additional labour thrown on the Naval Service would it not?—Undoubtedly it would be that.

7486. Do you not think it would be far preferable that the people who are interested and who have charge of the fisheries in Scotland should undertake the work and pay for it?—That is one way in which it might be done.

7487. Do you not think that would be the way most likely to ensure both efficiency and economy?—There is no doubt that it would.

7488. Surely it is better, is it not, that the people who are to undertake the charge of a pro-

Chairman—continued.

ceeding of this sort should be the people to pay for it?—Yes.

7489. It is not human nature to be very economical with what you do not pay for yourself or which costs you nothing is it?—There is something in that.

7490. You have already said that there is a great difficulty in enforcing the law with regard to trawling in a three-mile limit, do not you think that this difficulty would be still further increased if you increased the band of territorial water to 7, 8, 10, or 12 miles as you suggest?—It certainly would be a little more difficult.

7491. Still you think the game is worth the candle and that the results to be obtained would repay the costs whether to the local authorities or the nation?—That is my opinion.

7492. Really, as I understand, you have no other serious grievance to bring forward, have you, except the question of trawling and of keeping the trawlers apart from other classes of fishermen?—Yes, that is it.

Mr. JAMES MACADIE, called in ; and Examined.

Dr. Clark.

7493. ARE you a net manufacturer in Wick?—Yes.

7494. Have you been interested in the fishing trade for a great many years?—Yes.

7495. Have you an interest in boats?—Yes, I have had.

7496. I think you were the first to introduce steamers, were you not, in connection with her- ring fishing?—Yes.

7497. Have you heard the evidence of Provost Dunnett?—Yes.

7498. I suppose, in general lines, you agree with him?—Not altogether.

7499. Where do you differ from him?—I entirely differ from him regarding the number of boats required to keep the coast.

7500. How many boats do you think would keep the coast?—One boat, if a good boat, and well handled, is quite sufficient to keep the coast between Kinnaird Point and Duncansby Head.

7501. What do you mean by a good boat, a speedy boat?—Yes, a speedy boat.

7502. Do you think the "Watchful" is not a good boat?—No, she is not of any use whatever; the trawlers run away from her, she cannot catch them. The one that was caught on the Sunday had to have a shot fired across her bow before she could be brought to. The trawler was making off and she fired a shot across her bow and stopped her, and she lay to.

7503. You think, do you, you would want a swift boat?—Yes, and to be regularly on the place.

7504. A boat like a trawler?—Yes, and not lying at Cromarty as they always are, but they want to be on the station.

7505. As a matter of fact the "Watchful" is lying always in one of the Firths and does not steam about does she?—She does not.

7506. You think there should be one boat constantly sailing up and down the coast and 0.93.

Dr. Clark—continued.

that would be sufficient do you?—That would keep the Moray Firth line perfectly well.

7507. In addition to what the provost said, you are aware, being a net manufacturer, that the lines and the nets of the fishermen are very often destroyed by the trawlers, are you not?—The lines more so than the nets. The lines are longer and further away from the boats, measuring between four and five miles.

7508. How is it that they can get no compensation, what is their complaint?—They cannot catch them, they throw a piece of sack, or canvass, over their number, and conceal it, and the fishing boats cannot get them.

Chairman.

7509. But they are obliged now to carry their numbers on their funnels as well as on the bows are they not?—So they are, but they cover both. I may say the numbers on the funnel are obliterated very often with smoke. I see the trawlers very often and the smoke soon obliterates the number on the funnel. And the number on the bow has a bag thrown over it, and the fishermen can do nothing.

Dr. Clark.

7510. Do you agree with the provost as to a close time for the herrings?—I do not see how a close time for herrings could be applied. There are occasions on which it would be useful, but seasons vary, and not only do seasons vary but also the nature of the trade varies. Sometimes a town is catching immature herrings and trying to cure them and send them to market which does ill, but that town often gets a fresh trade which these early herrings suit very well for, and while at one time it might suit a certain time even that same town it might not suit at all times. I think it would be utterly impossible to apply a close time with satisfaction, it would do more ill than good.

7511. Do you agree with him that the herrings
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Mr. MACADIE.

[Continued.]

Dr. Clark—continued.

go right round the coast is that your theory?—I do not believe that, it may be so. I believe they go into the ocean just like haddocks, and cod and anything else.

7512. You think they go out and in, do you, and not round the coast?—Yes.

Colonel Cotton-Jodrell.

7513. Do the fisherman generally want a close time?—Yes, but this season has put many of them off it. The fishermen were nearly all for it previous to this December, but this season they had a close time in Stornoway, and I suspect they kept their close time until such time as the fishing was over; they only caught 14,000 crans instead of 90,000 or 100,000 there—

7514. Do you think that was waiting too long?—I do not know, I think so; they had a close time and that is how it ended. What was the cause of it I do not know.

7515. Have you observed in Wick that your cod fishing and your haddock fishing has practically been destroyed?—The herring has fallen off and the cod fishing has been entirely destroyed. This last year I have attended the harbour very often, when the boats were coming in, and I would ask the men "what have you today?" "Oh, six fish" and another would say seven fish. "How many lines did you use?" all of them "Eight lines."

7516. What length of line, how would that be?—3,360 fathoms.

7517. What would they have got seven or eight years ago?—The usual haul was from 100 to 200, 150 or 120. Those that shot their lines now off Wick Bay would average from eight to 10 fish.

7518. I understand they are doing most of the fishing away in Orkney, are they not?—There are a great number of boats forming the cod fishing from the port of Wick during the winter season belonging to the Banffshire side, but they go down to the west of Holborn Head.

7519. That is the other side of the Orkneys is it not?—Yes.

7520. So that your cod fishing has gone to the west coast has it?—It has nearly entirely left the Caithness coast.

7521. Has the same thing occurred with your herrings?—Yes. In the year 1880, we had some 117,000 crans, the last year we had 33,000 crans.

7522. How do you account for that?—I think the great amount of trawling has disturbed the fish very much, the great amount of trawling carried on off the Caithness coast, particularly on the Sabbath day.

7523. Do you think the trawling is worse on the Sabbath day than on any other day?—They come nearer on the Sabbath, because we see them oftener, the boats are not out with their lines or anything else and they come nearer. I saw them last Sabbath day. I saw three trawling within the limit, and three weeks ago I saw other three.

7524. So that notwithstanding the prohibition they are still going on trawling, are they?—Yes; unless they choose to keep outside the line there is nothing to make them keep outside just

Colonel Cotton-Jodrell—continued.

now. They had been keeping outside at first, but during the last few months they have been coming more in. As they see they are not interfered with, there is nothing to prevent them coming in.

7525. I saw the "Watchful" myself last week, lying inside the Firth, both coming and going to Wick?—She is of no use whatever.

7526. So that, practically, the boat that ought to be watching is always laying there, is it not?—But she has not the speed that is necessary, she is not of any use, and is an old done up thing.

7527. So that the law is not obeyed by the trawlers is it?—No, not as regards the coast-line, from Duncansby Head to Kinnaird Point.

7528. How far would the present three-mile limit from Duncansby Head be from Wick?—The line drawn from Duncansby Head to Kinnaird Point passes Wick Bay about eight miles.

7529. How far off would those trawlers be when you saw them?—About four or five miles; one was nearer.

7530. So that they were four or five miles off the coast, you say?—Yes.

7531. What would you suggest to make the law obeyed better?—Get a boat that can sail and a man that will keep her on the station.

7532. Do you agree with the provost that the present fines are too small?—Yes, I think so certainly.

7533. Do you agree with the provost as to the destruction of your haddock fishing also?—The haddock fishing has entirely given in for a number of years. This year, there was a quantity of small fish, but very small ones.

7534. Have you any other grievances which you wish to bring before the Committee?—There are also the railway rates for fish, which are fearfully exorbitant, considering its value.

7535. What remedy would you suggest for that condition of things?—Lower rates.

7536. What would you suggest for these ills by which your fisheries have been practically destroyed. How many boats have you this year?—The boats have got less, in consequence of their being no fish on the coast, and though the boats are less this year, we have had four times the fish up to date that we had last year, we have four times the fish, and 100 less boats, 412 last year and 312 this year.

7537. To a certain extent the prohibition of the trawling you think has brought your fish in, has it?—Yes, of course there are certain warm seasons which are perhaps better for bringing herrings on. I have usually seen in a warm year the fish was better, but the trawlers have not been coming in so frequently to disturb them, not near so frequently as they used to do; in fact until the last few months they used not to come in at all, now they are coming in closer, as they are not prevented.

7538. Is it easier for them to get in with their catch of fish?—They do not come into Wick, but they usually go into Aberdeen with them.

7539. Have you anything to suggest as to a remedy?—All the remedy I know of is to get a swift boat of our own, and put her in command of

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Mr. MACADIE.

[Continued.]

Colonel Cotton-Jodrell—continued.

of a man who will actually attend to the work, and not a man who will lie about anywhere.

7540. Have you any other remedy to suggest?—One cannot expect to close the whole ocean against trawlers, but I think if the line already drawn as regards Wick were regularly enforced it would be of vast benefit.

7541. Do you think there is any special need for increasing the line?—It would be better, of course.

7542. What increase would you make?—I do not know, the further the better, but I would not fix any limit.

Commander Bethell.

7543. Did you hear the evidence the provost gave about the payment for the police?—Yes, I did.

7544. Do you agree with him?—I did not hear distinctly how the provost expressed himself as to that.

7545. Should you object to your locality being taxed in order to pay for the sea police?—I think the least the Government can do is to protect the fisheries against such a murderous destruction as trawling along the coast.

7546. Would you apply that to the whole of the United Kingdom?—Yes, certainly I would.

7547. Would you prefer that to each locality paying for its own police?—I say this trawling business is a very special circumstance; it is not a thing that Parliamentary Returns can answer, or anything else, and I think, considering the very exceptional case, the Government should pay for it; besides I think they have plenty of boats they could send down; it would be better than running them into one another.

Colonel Cotton-Jodrell.

7548. You have apparently got a very unsatisfactory boat on the place now in this "Watchful," have you not?—Yes, the boat is not able and does not attend to it either.

7549. Do you not think that unless you had the thing in your own hands, and the control of the payment of these boats in your own hands, you might get very badly served?—I think it would be better if the Admiralty would use a few of their idle boats, there are plenty of them idle, doing nothing. We have an immense navy simply for the purpose of war; they are not needed just now, they are cruising about doing worse than nothing and I think if there were one or two sent and commissioned under the Fishery Board for a time, it would be no harm to the Admiralty.

7550. You would not have an ironclad down, would you?—I would have no objection if she was of more service than what we have got.

Colonel Cotton-Jodrell—continued.

7551. Does it not occur to you as a business man that it would be very much more satisfactory for you to have the control of these police measures entirely in your own hands?—Well, it would, but I think it would be quite sufficiently in our own hands by the Admiralty merely commissioning a few boats under the Fishery Board for a time.

7552. But they do commission one now, do they not?—Yes, but they might give a better one, there are plenty of them.

7553. How do you know there are plenty of them?—I know there is a big list in the returns of our navy and I do not know that they are doing much.

7554. That is your opinion, is it?—Yes, that is my opinion, certainly. It is not my opinion that there are a lot of them, it is more than an opinion.

7555. Have you any foundation for making such a statement?—Yes, I have seen Government Returns and I think they were a very big lot.

7556. And that they are doing nothing?—Doing nothing. Most of them are cruising about.

7557. Cruising may be useful, even if they are not employed in any industry, may it not?—It may be, but still there are a very big number kept in the event of war arising, and I say in the time of peace they could be usefully employed without much expense to anyone, I think.

Chairman.

7558. With you, too, it is only a question of trawling is it not: you think that is the only thing that requires regulation?—The real thing I think is the question of trawling and railway rates. Considering the very low value of the fish, the rates charged are much higher, a great deal higher than the rates charged on other goods, considering the value of other goods.

7559. But so far as the fishermen are concerned and the fishing interests are concerned, it is merely a question of trawling, you think, do you?—Yes, as far as the protection of fish is concerned, but not as far as the whole question is concerned.

7560. The question of railway rates really does not come before us?—I do not know. Trawling is the only thing I know. The mere passing of a law, unless it is enforced, is no good.

7561. What you do say is; supposing adequate regulations were made with regard to trawling, and those regulations were enforced, there would not be very much to complain about with regard to the Scotch fisheries, would there?—I think not.

Mr. GEORGE MILLER SUTHERLAND, called in; and Examined.

Dr. Clark.

7562. WERE you a provost of Wick?—Yes.

7563. Are you the honorary secretary of the Caithness Fishermen's Society?—Yes.

7564. Have you been selected by them to represent their views here?—Yes; I have been linked with them since the association was formed ten years ago, and I know nearly every fisherman in Caithness personally.

0.93.

Dr. Clark—continued.

7565. Have you heard the evidence of Provost Dunnett and Mr. Macadie?—Yes.

7566. Do you generally agree with them?—Partly.

7567. On what points do you differ from them?—With regard to the question of trawling I agree with them there, and the fishermen of the county of Caithness are unanimously against it.

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7568. That

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7568. That is to say, they would prefer to see trawling abolished altogether and made illegal, would they?—Yes, and to put the point shortly since trawling began all the area along the Caithness coast from which the fishermen of Caithness got their white fish for a number of years is now perfectly valueless.

7569. The fish having been practically all destroyed, as you say?—The fish have gone away to a great extent.

7570. Do you think they have gone away?—Well, they are not there.

7571. What do you think that is due to?—It is due to the trawling to a certain extent, because the trawling disturbs the sea bottom, and it also frightens away the fish. For example, the natural instinct of the fish, if they are molested in any way in their native haunts, is to go away in flocks. I have seen the thing tested myself in the Bay of Keiss, for example, where the water is eight or ten fathoms deep, and you can see the bottom. If you throw anything there amongst them the fish fly away; and the fishermen contend that a beam trawl 50 feet wide, going at the rate of four or five miles an hour, covering so many scores and hundreds of acres of sea bottom in the day, must have a bad effect as regards the spawning and the general condition of the fishing. I wish to mention another thing with regard to trawling. The fishermen say that it interferes even with the herrings. For instance, I have heard of fishermen in the Bay of Latheron, who when the water was smooth got pretty good takes of fish, and on a day when the men were ashore a trawler went and fished there for several hours. The next morning, when the fishermen went back they got nothing. I am aware the same applies to several instances in the Bay of Keiss, and further that when the herring come from the deep water to the spawning beds along the coast, they go to the bottom very much, especially when in a spawning state, and then the trawlers with a trawl going on the bottom operates very much against them.

Chairman.

7572. Are you aware that the herring always spawns on a rocky bottom?—I am not altogether aware of that, but I am aware of certain districts where for a long time along the Caithness coast they have been coming there, and that is the spawning ground, it may be more or less rocky.

7573. Are you also aware that a trawler cannot trawl on a rocky bottom?—I am aware a trawler cannot operate on a rocky bottom; further I would point out that the Bay of Keiss on the Caithness coast is a beautiful bay four or five miles wide, and the fishermen were getting very good takes of haddocks there from year to year. After the trawlers came into that district for a certain time they could not catch any fish. There was a rocky ledge from Ackergill out to a certain district to the Noss Head, where the trawlers could not work, and the fish apparently fled to that district and the hand liners were able to get fish there.

7574. I was asking you about the assertion

Chairman--continued.

that the trawlers interfered with the spawning of herring. I wanted to make quite clear that there was ground for the assertion that the trawlers interfered with spawning herring. Can you give us some proof of that? It is admitted that herring does spawn at the bottom; its spawn adheres to the bottom, but that it is always on rocky ground that is unsuitable for trawlers?—Yes.

7575. Those being the facts, and I think they are practically admitted, how does the trawl interfere with the spawning?—I am told that the fish come from deep water; they go in-shore, and in their progress in-shore on good sandy ground they are interfered with.

7576. Then, again, how is it that herrings are not caught in a trawl, except in very small numbers?—That is easily accounted for. The herring very often are near the surface, or up and down, but the trawl is at the bottom, and, except when the herring are in a spawning state, when it is said they are about the bottom, they are not interfered with much.

7577. You have proved exactly my point, which is that, except at the time when the herring is spawning, he is not in a position to be interfered with by the trawl, and, therefore, that the trawl does not scatter the herring?—I would say this, that over the area over which they were in the habit of getting fish at Caithness for a great number of years, the trawler goes out and in near the shore and considerably off the shore, and is moving about. I cannot say, and no other man can say, where the herrings are always; but still they are coming in considerable shoals inwards, and there can be no question about it that a considerable number of trawlers must do a lot of damage to them; at least, the fishermen say so.

7578. But how can the trawl do damage to these herrings?—It scares and disturbs the herrings.

7579. You do not tell me the tow-rope will scare a shoal of herrings, do you?—Certainly it will, very considerably, and even a stone thrown in in water eight or ten feet deep, where the bottom is sandy and the bottom can be seen, shows clearly that fish, when disturbed in any exceptional way in their native haunts they become more or less terrified. There is another point about the fishing. The fishermen say that the fish is pretty local. I agree with what Mr. Macadie said on that point, namely, that the herrings are generally in deep water and then they come in in shoals. Of course there is a certain small quantity on the coast all the year round, but the great shoals come in at a certain time.

Dr. Clark.

7580. Do you know even the fish you get from Scrabster are different to those you get off Wick?—Yes, and the fish you get in Stornoway, they are better tasting fish, and that is said to be due to the operation of the Gulf Stream. They mature earlier, while the fish on the east coast, that do not come under this operation, are two or three or four weeks behind.

7581. Is that why you account for the fishing on

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on the west coast being so much earlier than on the east?—Yes.

7582. Are you in favour of a close time?—I have been present at nearly all the meetings of the fishermen, and at all the meetings they have had yet they were for a close time. Of course the fishing this year has been a little earlier. But then their great point is this, up to about 15 years ago there was a practical close time over the Caithness coast, for the very good reason that the fishing did not commence till about the 18th or 20th of July; there might be a little fish procured a few days before, by made-up crews. Up to within 15 years ago the fishermen and the fish-curers got on very well, and they made considerable earnings, but for a considerable time it has fluctuated, and there has been great ruin in the trade. The cause, the fishermen allege, is this, and this is why they are in favour of a close time. They say that when the herrings were coming in shore, if you take them too early they are not properly matured and they do not get a chance of coming to the in-shore grounds; they are taken ashore, the consequence is, being of inferior quality, they do not get any sort of price for them, and if they come in any considerable quantity, of course that interferes with the market, and operates prejudicially on the good herrings during the remainder of the season.

7583. Then do I understand you to say that at all the meetings of the fishermen they were against a close time?—All the meetings of the fishermen were in favour of a close time.

7584. I understood you to say they were against it until this year?—This year they have not met, but it is not known what they may say with regard to this year.

7585. How would they like the close time enforced; would it be by the Fishery Board?—Of course that matter could be left to the Fishery Board to determine according to the different localities. It is impossible to make a close time applicable to the whole of Scotland, but to certain districts it can be applied. I understand there is a Fisheries Bill before Parliament dividing the country into districts, and each district could make a representation as to whether they wanted a close time or no to the Fishery Board, and the Fishery Board would have the power to make a bye-law for it.

7586. Would that suit the fishermen?—Yes, it would suit all parties.

7587. And if it was not found to work well the bye-law could be repealed, could it not?—Yes; of course a board having the discretion the Fishery Board has would act as might be required in the general interests of the trade.

7588. Is there any other grievance in addition to the fact that your fishery is being destroyed by the trawlers you have to bring forward?—There is a grievance the fishermen have in the immediate neighbourhood of the harbour of Wick. There are a number of salmon nets situate at certain headlands off the coast. Now, if a fisherman, for example, shoots his net rather low with a flowing or an ebbing tide, one of his lines of his nets may come in contact with a salmon net, and during the night, by the action of the

Dr. Clark—continued.

tide, his boat is turned about, and he is on the rocks with his nets before he knows where he is. I am aware of a number of fishermen having sustained serious loss in nets and fish on that account. On one morning there were four drifts of nets stuck to a salmon net a short distance from Wick.

7589. Does that interfere with the navigation of your harbour?—No. There are two salmon nets, however, within the Bay of Wick, and certainly that interferes with the navigation of the boats going in and out of the harbour when the wind is in a certain direction, but the nets to which special objection is taken are to the south of Wick, and a number of fishermen made declarations on the subject and pointed out their loss. They were sent to the Board of Trade and I think they were afterwards sent to you.

7590. What did the Board of Trade say?—Really I forget, but there was a correspondence on the subject. I think it was brought before the Fishery Board, and I think it was stated there was no redress in the matter.

7591. The salmon fishers stake out their nets, do they, and your nets catch upon their stakes?—Yes.

7592. Is your complaint then that those stakes are there?—Yes, and interfere with the drift nets, and many fishermen have sustained very heavy loss in connection therewith.

7593. Cannot you allow any compensation for them?—No.

7594. Then why do you allow those stakes to be placed there?—I suppose because the law permits them and because the fishermen do not interfere with them.

7595. What law permits them?—I really do not know. They say they have the law on their side.

Chairman.

7596. But surely it is a rare thing for men to fish with drift nets so close in shore as that, is it not?—No, it all depends on where the herrings are. Sometimes the herrings come very close to the rocks, and on these occasions the fishermen cast their nets very near the shore.

7597. I suppose these salmon nets do not extend out more than 200 yards, do they?—They extend out several hundred yards.

7598. Then the water must be very shallow, must it not?—No; the water would be pretty deep there.

7599. You cannot fix a stake net in deep water, can you?—I do not know the particular description of net, but there are nets there.

7600. I understood they were stake nets for salmon?—There are buoys there; at any rate there is no doubt of the fact, and the evidence can be submitted to you.

Dr. Clark.

7601. What do you think is the remedy for this kind of thing; do you agree with the other witnesses?—I believe that trawling should be kept as far away as possible, and I believe that an efficient sea police should be got to carry out the laws the State imposes.

7602. Do you think the "Watchful" does not do that?—No; nor I do not believe that any vessel connected

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connected with the Admiralty will do the work properly.

7603. Then do you think the Fishery Board should have their own boats?—The Fishery Board should have a vessel of its own, to be manned and officered by men who have a practical knowledge of the fisheries, and who have more or less sympathy with the fishermen.

7604. Do you think the cost of that should be thrown upon the Imperial Government, or should it be thrown upon Scotland; are you aware of the fact that both in Ireland and England there are no gunboats used?—I have heard so.

7605. But that the Fishery Boards, some of them, tax themselves and buy their own boats and have their own bailiffs?—Yes, but there is a great cry over the country that Scotland pays too great a proportion of money, and possibly might get a little back in that way.

7606. Then do you think, until there is a proper arrangement between the two countries as to financial arrangements, the cost should be upon the Imperial exchequer?—Of course that would be a matter for the State itself to consider. It should take an interest in the industry of the poorer classes of the country.

7607. Have you any other remedy to suggest?—No, but I would point out this fact, that since the Moray Firth was practically closed (trawlers have been coming since to it) a race of haddocks have come on to the old ground again, where they were caught before the trawling commenced; they are all small size, but there is a small race of them, and it is attributed to the disappearance of the trawlers that that race has come; at least, within the last year, the fishermen went out and they got a few baskets of haddocks of small size, no doubt, which have not been caught for years.

7608. So that you think, do you, one of the

Dr. Clark—continued.

good results of the Moray Firth having been brought within the area, is that the young haddocks are beginning to grow again?—Yes.

7609. Do you hope to get back your haddock fishing?—Yes, fishermen say so. I have seen the fish myself, they are getting—

7610. Do you think the present restriction should be made permanent, and should be extended?—Yes.

7611. How far do you think the three mile limit should be extended?—The three mile limit is practically of no use for the line fishermen. There may be five or six of them on a haddock boat, and they will have lines that will extend four or five miles, or thereabouts. And before they were kept out of the territorial waters the trawlers could go over the grounds and interfere with the lines; at least the trawl would come, and the lines be destroyed. There have been many cases in which, when a trawl comes in contact with a drift net it will bend the net and sometimes break it, and at least destroy the yarn of the nets.

7612. Do you know many cases of that kind?—I have known a good few.

7613. Do you know of any compensation having been obtained?—I do not think so. They did not know who did it. It was generally done at night time, and the trawler generally tries to conceal his number, at least that is what the fishermen say. I have heard many complaints for a number of years about it. All these complaints, since the Moray Firth has been closed, are practically done away with, and you do not hear much about them now.

7614. Cannot you say what distance you think should be closed?—As to that I really do not know, but possibly an arrangement could be made upon that point with the Governments of the nations that border the North Sea.

Mr. JOHN MITCHELL, called in; and Examined.

Mr. Buchanan.

7615. ARE you baillie of the burgh of Peterhead?—Yes.

7616. Have you been engaged as a fish dealer and fish curer for a number of years?—Yes, for the last 25 years.

7617. Is your business conducted in Peterhead?—Yes.

7618. But do you buy your fish from Peterhead and the adjoining fishing villages?—Yes.

7619. Do you believe that in the views you give to the Committee you represent the prevalent views in Peterhead of the fish dealers and fishing communities near?—That is so. In order to ensure this, I may say the Fish Trade Association at Peterhead passed the following resolution last week. "That this meeting is of opinion that any close time in this quarter would be prejudicial to the general interest of the herring fishing industry."

7620. Will you give us your views first of all about a close time?—My opinion is that

Mr. Buchanan—continued.

no amount of fishing can diminish the quantity of herrings. The parties in favour of a close time appear to be equally divided as to their reasons for it. The one half wish a close time, because they believe that by early fishing the shoals are broken in coming to the shore, and consequently the catch is diminished. Another part believe that by beginning too early too much fish is caught, and the market is overstocked. I think you will see that these arguments are diametrically opposite. I have come from Peterhead, one of the most important fishing centres, where a very large business is being carried on in herring fishing just now, and I have to say that the quantity and quality of herrings landed during the season which has been proposed to be closed has been of an exceptional kind. The quantity has been very large, the quality has been very fine, so much so that a good many of the herrings caught on the 5th and 7th of July, times on which a close time has been suggested, were presented to

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to the fishery officers the day before I left and branded with the official brand, thus proving that these herrings were of a keepable nature.

7621. So that the imposition of a close time would, this year at any rate, have shut out some of the best herrings from the market, and the most remunerative period of the herring fishery?—Yes. There has been about 300,000 crans landed up to last week on the Scottish coast, representing a value of about fully 200,000*l.* Had the close time been in force as suggested by those in favour of it, the fishermen would have been deprived of the greater part, if not the whole of that sum.

7622. Would you oppose it on the ground that the seasons vary at which the herrings come to maturity, and at which they come to various parts of the coast?—I would oppose it on that ground, but not on that ground alone.

7623. Will you state your other grounds?—The early herrings which some characterise as immature can only be regarded as immature in the same respect as a lamb is an immature sheep. They are good food, and can be manufactured for the fresh markets and bring very remunerative prices. The firm with which I am connected up to the 1st of July manufactured about 2,000 crans, mostly into kippers, and paid the fishermen an average of about 15*s.* a cran for them. The fishermen would be very pleased could they be sure that the price would not fall below that until the end of the season.

7624. Is there any difficulty in finding a market for all these early fish?—No. It does occasionally happen that the south markets get blocked. The only cure for that would be that the fishermen, when they find the prices are not remunerative, should stay ashore. That occurred, I think, about the middle of June, and on one or two days I advised the fishermen to stay ashore; they did so, and the market righted itself again the next week.

7625. Is there not a difficulty in some respects about getting the fresh herrings to the market, and are there not some complaints about that?—That is the question of railway rates, which is a standing grievance with us.

7626. And it is particularly felt with regard to this part of the fishing industry, is it not?—Yes. Most of the herrings—I should say the whole of the herrings caught previous to the 1st of July—go to the English markets, and you know the charges are very heavy.

7627. Could you send a good many more if it were not for these heavy charges?—There could be a good many more sent.

7628. Have you anything to say about a close time?—No; I think I have said all I wish to say in regard to a close time for herrings.

7629. The opinions that you have given expression to against establishing a close time for herring are the opinions that are held by the large majority of those interested in fishery matters in Peterhead, and on that part of the coast, are they not?—That is so.

7630. There is no question about that, is there?—No. Several meetings were held upon the subject at the fishing villages where most of

Mr. Buchanan—continued.

the fishermen reside, and expression given to their opinion that a close time was undesirable.

7631. How many boats are engaged in the herring fishing from Peterhead now?—Perhaps about 550 just now.

7632. I suppose Fraserburgh and Peterhead would represent the vast majority of the herring fishery of the north-east of Scotland?—Yes; boats flock to Fraserburgh and Peterhead because the grounds off that district appear to be more productive of good herrings than any others on the coast.

Chairman.

7633. Can you tell me how many boats are fishing at Aberdeen now?—Perhaps from 200 to 300. That fleet may be increased later in the season. The boats have not all come forward yet, but I do not think Aberdeen will exceed 300 boats.

Mr. Buchanan.

7634. You said about 500 from Peterhead alone, did you not?—550.

7635. How many from Fraserburgh?—About 700.

7636. So that generally that expression of opinion against a close time is the expression of opinion of the largest and most important part of the herring industry in the east of Scotland?—Quite so; and if you will allow me to point out, it seems that the fishermen and fish curers who carry on business at Stornoway and Shetland, and leave Peterhead and Fraserburgh during the months of May and June, for that purpose are the parties who urge a close time on the east coast. The fishermen who fish during the months of May and June, are men who are not able to go from home, who have small boats, and a very large number of them are old men; but those who are opposed to a close time believe if they can keep back the east coast fishing, in as far as they can keep it back they will preserve an open market for their own produce on the continent.

7637. So that there is a certain selfish interest involved in the matter, is there not?—Yes. I saw Mr. McNaughton's evidence, and I have come into contact with a good many of the Buckie people since they came to Peterhead, and I have no doubt their views, after their experience at Stornoway, would be considerably altered since last year.

7638. In fact, this season's results, you think, will have made a perceptible difference in the opinions held by those in favour of a close time, do you?—Quite so. The herrings landed at Peterhead on the 1st of July, were of as fine a quality as any fish curer could wish at any part of the season. Last year, about the first week in August, shots of 100 crans were being landed by boats from the Aberdeen district in Peterhead not fit for curing at all. They were bought by fish curers at a nominal price of 1*s.* 6*d.* to 2*s.* a cran. I mention this because whilst these boats were bringing in herrings of this description, boats fishing in other parts of the sea on the same day were landing herrings

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which

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Mr. MITCHELL.

[Continued.]

Mr. Buchanan—continued.

which were selling readily at from 12s. to 15s. a cran.

7639. Is there anything further you would like to say with regard to the herring fishing?—I would remark that supposing you resolve to recommend a close time you would never find other nations willing to agree to it, for this reason, that the Dutch and the French at present are fishing, perhaps, from 50 to 80 miles off the coast, they are fishing very good herrings, and I am sure that it would be useless to invite foreign Powers to consider a question of that kind, which would be so detrimental to their interests.

7640. In fact, unless it were made international, it would put our fishermen to great disadvantage, would it not?—Even our fishermen who were in favour of a close time made the provision that they would be in favour of it provided it was international.

7641. With regard to the white fishery, in Peterhead, will you tell us the condition of the industry in Peterhead; I think you have statistics on the subject, have you not?—Yes.

7642. Can you give us the number of boats in recent years, and their takes, and so on?—Yes. During the last few years the fishermen have been feeling that the quantity of haddocks have been diminishing on our coasts, and it had come to be considered such a serious question by them, that a mass meeting was called at twelve o'clock in the day, on a Saturday, a very busy day.

7643. I will come to that in a minute, but perhaps you will first give us the figures you have as to the number of boats?—Do you refer to the number of boats fishing at Peterhead?

7644. Yes; and to the number of cwts. of haddock they caught in several years?—These are the statistics which I submitted to this public meeting I was referring to. A resolution was passed at that meeting, and I submitted these figures to the meeting, which were first submitted to the fishery officers in the district, chiefly collected from the fish salesmen, and with the approval of the fishermen's committee, of Peterhead; in fact, in some cases, they believed I was more than fair to the industry. The haddock fishing season extends from the first of October to the latter end of March, six months, and in the year 1887-8 there were 78 boats fishing at Peterhead, manned by crews of 527 men. They landed during that six months 33,512 cwt. of haddocks at an average price of 10s. per cwt. The total value of the haddock landed during the six months was 16,756l., showing a gross total earning for each man from the haddocks of 31l. 15s., to which I add 3l. for what is called orra fish, making a gross total for each fisherman for 1887-8, of 34l. 15s. for the half year. From this has to be deducted outlay by each man, bait and baiting, tear and wear 15l. 10s.; upkeep of boat 1l. 12s., a total of 17l. 2s., which, deducted from the 34l. 15s., brings out a total earning of 17l. 13s., or an average of 13s. 7d. per week for each fisherman. That is for the year 1887-8. Then for the year 1888-9 the boats were increased to 101, and the men to 535. The catch was 33,363 cwt., the average price being 10s. The value was 16,681l.; gross

Mr. Buchanan—continued.

earnings each man 31l. 3s. 7d.; probable earnings each man, cod and ling, 5l.; total, 36l. 3s. 7d.; from which deduct outlay by each man on bait 16l.; upkeep of boat 1l. 14s., total 17l. 14s.; leaving the net earnings for six months of each man to be 18l. 9s. 6d., or an average, after deducting servant's fee of 12s. 2d. per week. In 1889-90, the number of boats fishing was 116, manned by 600 men. These landed 44,754 cwt. of haddocks at an average price of 9s. The total value of the haddocks that year was 20,139l.; the gross earnings of each man from haddocks was 33l. 11s. 3d.; from cod and ling, 4l.; total 37l. 11s. 3d. The outlay on bait, baiting, tear and wear, was 18l.; upkeep of boat, 1l. 16s., total, 19l. 16s.; leaving a nett earning to each man of 17l. 15s. 3d., or, after deducting servant's fee, 11s. 4d. per week. In 1890-1, we had 118 boats manned by 611 men, and landed 49,261 cwt. of haddocks, value 8s. 3d. per cwt., total value, 20,420l.; total earnings from haddocks of each man, 33l. 5s. 2d.; probable earnings of each man from cod and ling, 2l. 10s.; total gross earnings, 35l. 15s. 2d., from which has to be deducted for bait, baiting 18l. 10s.; upkeep of boat, 2l.; total, 20l. 10s.; leaving a nett earning of 15l. 5s. 2d. to each man, or, after deducting servant's fee, 9s. per week. In 1891-2, 121 boats manned by 626 men; landed 37,678 cwt. of haddocks, average price 11s.; total value 20,722l. 10s. Gross earnings each man, 33l. 2s. for haddocks; 2l. per man, cod and ling; total 35l. 2s. Outlay by each man for bait and baiting 19l., and on tear and wear and upkeep of boat, 2l., total 21l., which, deducted from 35l. 2s. leaves 14l. 2s.

Mr. Buchanan.

7645. The general result of comparing the first year and the last year would be that whilst the boats have increased from 78 to 121, the catch has been almost stationary, rising only from 33,000 to 37,000 cwt.?—Yes, but I would point out that in the last year, 1892-3, at the time these statistics were compiled, the result was for the first half of the year 127 boats manned by 659 men, had landed 8,062 cwt. of haddocks, average price 11s. 6d., value 4,635l. 13s., gross earnings to each man from haddocks 7l., probable earnings each man from cod and ling 1l. 10s., that is 8l. 10s. and the outlay by each man upon bait and baiting was 8l. 10s., and for keep of boat 1l., making 9l. 10s., bringing out the fisherman a loser by 20s.

Mr. Harry Foster.

7646. Was that for a quarter?—Yes, for the half of the fishing year, a quarter of a year. That fishing was closed, and I cannot speak exactly, but I should say their earnings for the whole year were very small, if they did much more than meet their expenses.

Mr. Buchanan.

7647. That was a very bad year, was it not?—Yes.

7648. Still allowing for that, the general result of the figures you have read to us shows this, does it not, that whilst the boats have increased from 78 to 128 the amount of fish they got has substantially not increased at all, and the earnings per man have diminished?—Yes.

- 7649. There

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[Continued.]

Mr. Buchanan—continued.

7649. There has been a steady decrease, has there not?—Yes; and you will observe the outlays steadily rise, and these outlays I submitted to the fishermen's committee, who thought that I had rather understated than overstated them, and they agreed with me in them.

Mr. Harry Foster.

7650. You did not give us the figure of earnings per week for the last period but one; they would be about 16s. per man, would they not?—I may explain that the original document I could not put my hands on; I have here a draft, and I could correct the figures afterwards, if necessary.

Chairman.

7651-4. Please hand that in when you have corrected it.

Mr. Buchanan.

7655. I think it may be fairly stated, may it not, as the general conclusion that, whilst the vessels have increased, the catch has remained stationary, and the earnings per man diminished?—Yes, but vessels have increased; they are much larger now, and they go off further to sea. They take risks now which they could not have done with the smaller boats, and consequently they are fishing in weather now which they would not have dared to do eight or ten years ago.

7656. Was this statement of yours compiled for and read before a great meeting which was held in January this year, representing all the various fishing communities along the coast from Aberdeen into the Moray Firth?—Yes, there were about 1,000 present at it, all fishermen. They had a procession before, and there was a great demonstration.

7657. Deputations and representatives attended from the villages at some distance, did they?—Yes, from as far as St. Combs, and south as far as Ferryden, I think.

7658. Was the general opinion of the fishermen there and the substance of the resolutions to the effect that this large diminution in the take of haddocks and white fish was due to the constant trawling off the east coasts?—That was believed to be the fishermen's opinion.

7659. Was that the universal opinion there?—That was the universal opinion there.

7660. Without reading the resolutions that were passed at the meeting, was that the substance of them?—It was the substance of them.

7661. And that the state of the fishing industry was attributable to the constant trawling in the waters in which they were in the habit of fishing?—That is so.

7662. As the result of that meeting I think a petition was signed by 9,800 fishermen from off that coast which you have on the table, and which was sent to the Secretary for Scotland?—That is so.

7663. Will you state for the moment what the substance of that petition was?—The prayer of the petition was as follows: "That you may be pleased to take into consideration this humble petition, and to move Her Majesty's Government 0.93.

Mr. Buchanan—continued.

to take steps for convening an international conference of the Powers interested, with the view to the ascertainment of the cause of the great decrease which continues to take place in the number of food fishes frequenting the Scotch fishing banks, and should it be found to be due to beam trawling, for enforcing a prohibition against the practice of that injurious mode of fishing, and to take steps for providing an additional and more efficient sea police for the purpose of enforcing the regulations for the conduct of beam trawling already existing.

7664. Was that the most representative meeting of the sort which has ever been held by the fishermen on the north-east coast of Scotland?—It was the largest meeting, I think so, of the kind.

7665. Did it represent the unanimous feeling of the fishermen engaged there?—Yes, it was composed almost entirely of fishermen.

7666. But the fish curers and fish dealers like yourself were entirely at one with them, were they not?—Most of the fish curers are at one with them; some are not.

7667. Was the meeting presided over by the provost?—Yes.

7668. With regard to the remedies suggested and the proposals with regard to trawling, what have you to say upon that subject?—I would first observe that I believe the closing of the Moray Firth has been a serious matter for us on the Aberdeen coast. Whilst the trawlers have been driven from Moray Firth, they have come in more abundance on our coast.

7669. So that while Moray Firth has got greater protection, more of the trawlers have been turned on to the Eastern coast?—That is so.

7670. Is that within your observation?—Yes.

7671. And is it a matter of general knowledge there, is it?—Yes.

7672. What would you say to the proposal to extend the territorial limit for fishing purposes?—I should say that a territorial limit to be of any practical value to the Aberdeenshire coast would require to be at least 12 to 14 miles off.

Dr. Clark.

7673. Twelve to 14 miles from the points?—From our own coasts. The best fishing grounds are about that distance from Peterhead.

Mr. Buchanan.

7674. Would that limit cover the principal grounds which are resorted to in your fishing?—Yes.

7675. If trawling were prohibited there, as it has been prohibited in the Moray Firth, would your grounds be fairly and efficiently protected?—Our fishermen say so.

7676. Is there any other proposal with regard to restrictions upon white fish which you would suggest?—I think, if such a territorial line were impossible, it would be very desirable to make a trial of a close time for a month, say during the month of March, to be enforced against trawlers and line fishermen alike.

7677. Is that the time when the haddock are sick and lying at the bottom?—Yes; that is the time when they require most to be spared.

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7678. I

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Mr. MITCHELL.

[Continued.]

Mr. Buchanan.—continued.

7678. I see Mr. Esslemont suggested that if they were preserved, say during one month in the spring season, that would probably answer all practical purposes; anyhow it would make an enormous difference. He was advocating, I think, a month, the month of March?—Yes; but I think a strong effort should be made to enclose a larger territorial area.

7679. Do you think that would be much more effective and more satisfactory than anything else?—Yes, if attainable.

7680. With regard to the sea police, is it felt on the eastern coast of Aberdeenshire that there is not efficient protection given in the areas already restricted?—Yes, I believe it is. If one or two efficient boats were put on the coast, and if it were impressed on them that their duty was to detect trawlers, and if they set about their work with that intention, it is the general impression that they would soon cure the evil complained of of trawling in in-shore grounds.

7681. We have had evidence, I think, from Port Errol that the law is at present infringed on occasions?—Yes.

7682. At any rate is that idea widely prevalent?—Yes. I do not think these detective boats should go flying flags and allowing the trawlers to see that they are looking for them, and thereby giving them a hint to get out of the way.

7683. What would you say with regard to the questions which have been asked of the previous witnesses as to the maintenance of these sea police?—We do not care for increased taxation on our coast, but I believe it would be worth the paying for, as on the Irish coasts and English coasts it is paid for by the communities.

7684. That is not the case with regard to Ireland. With regard to England, I believe the facts are, that the fishery districts have the power of paying for the police force and that the Lancashire Fishery District has established a vessel for police purposes, but that is all?—I should think we should first do what we could to get the Imperial Exchequer to pay it, but failing that the fishery districts ought to take up the matter. I cannot see why such a fund as the brand fees could not be applied to such an object as that.

7685. It would be a serious matter would it not for the local community to embark in the initial expenditure of buying a fast vessel of this sort?—If it was scattered over a very wide constituency, which it would be, over the whole coast of Scotland, it would not be so very much.

7686. The actual maintenance would not be so very much, but to buy a vessel would be, of course, an important matter. I think the Lancashire vessel cost 5,000*l.*, if not more?—There would be considerable grumbling before that was collected, I think.

7687. At any rate, is your opinion that, as the Imperial Exchequer bears the cost now, it should continue to bear it, and do the work efficiently?—Yes; but the expenditure ought to be made.

7688. Have you any opinion as to whether it should be done under the fishery boards, or under the district committees, if they are created, apart from the question of expenditure?—I have not thought of it, but I fancy it should be under

Mr. Buchanan.—continued.

the control of the fishery board, or the joint control of the fishery boards and the fishery districts.

7689. I think you wish also to suggest, as a remedy for the over fishing, the establishment of hatcheries, do you not?—Yes.

7690. Will you tell us what you desire to suggest on that subject?—Yes. If you refer to the history of hatcheries in Norway and America, you will find that by their establishment and maintenance they have considerably increased the quantity of white fish on their coasts, and hatcheries can be established at very little cost. I understand Professor Cossar Ewart hinted that a fish hatchery could be established for perhaps 400*l.* or 500*l.*

7691. He was lecturing on that subject, was was he not in Peterhead last winter?—Yes, he was.

7692. And made suggestions on the subject which were generally thought practical and acceptable by the fishing community there?—Yes.

7693. Do you think that a hatchery so far as you know, although you would not like to express a professional opinion, could be established at a small cost and would be productive of valuable results in affording means for the increase in the supply of fish?—Yes, and I believe that it would tend to increase the supply of fish, and would be also useful as a means of technical education to the fishermen on the coast.

7694. It would interest them in the scientific side of their own industry, you think?—Yes, and the practical side too.

7695. They have been rather inclined to have their own way, have they not?—Yes, they have rather been inclined to have their own opinions.

7696. I think you also have some suggestions to make with regard to harbours have you not?—Yes, I was going to bring before this Committee the present crowded state of the two ports at which the herring fishing is principally carried on at present, Fraserburgh and Peterhead. There are more boats there than actually can find safety if a storm arises, and more boats would come there for the reasons I stated formerly, because they have increased accommodation. I am not prepared to speak on behalf of Fraserburgh, they can always speak for themselves; but it is the opinion of the people in Peterhead that were the Government to proceed to make the north arm of the present harbour of refuge just now instead of waiting until the south arm is finished, it would provide a means of safety for a very large fleet of boats.

7697. Is the want severely felt, particularly in a large herring season like this, of sufficient harbour accommodation at Peterhead?—Yes, that is so.

7698. We have had evidence to the effect that it has also been much felt at Fraserburgh, too, and along the coast generally. Would you say that, for the proper carrying out and development of the fishing industry, it is necessary to have an adequate supply of harbours that will take in the boats at present in use?—Yes; it is necessary.

7699. Would

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Mr. MITCHELL.

[Continued.]

Mr. Buchanan—continued.

7699. Would you be in favour of something like the scheme which has been suggested to us by the chairman of the Fishery Board and others, that power should be obtained by them of embarking in a general scheme for the improvement of harbour accommodation along the coast of Scotland, if money can be obtained for it?—Yes; they must take note of these important places, where the fishermen congregate, and provide accommodation for them, and I may explain to the Committee that a sum of about 4,000*l.* is collected annually for branding fees in these two places.

Dr. Clark.

7700. Do you mean after the expenses are paid?—The expense would not be very much; there should be from 3,000*l.* to 4,000*l.* to spare from these two places. That is my opinion; I think that that money should lie where it is earned in order to provide accommodation for the fishermen who come down for the herring fishing.

Mr. Buchanan.

7701. But still, of course, Peterhead, with regard to a harbour, is in an exceptional position at present, is it not, a big harbour is being built there by convict labour now?—Quite so, but it will be 20 years before it is of any service. If they would commence with the north arm, the south harbour, which is our main harbour, would be protected, and quays or jetties could be put up at little cost.

7702. Would it not be possible to divert the labour at present being used on the one part to the other part, which you consider more necessary?—I should fancy it would be.

Dr. Clark.

7703. Have you brought the question before the engineer at all?—It has not been formally brought before him. There was a movement before the harbour of refuge was commenced, to get them to commence at the north side, but certain gentlemen made extortionate demands for grounds which they had leased in the vicinity, which would be required for that undertaking, and, I understand, that for that reason Government departed from their proposal to commence on the other side. I believe they were contemplating commencing at the north instead of the south side.

7704. And the demand made by one or two local men for the use of their land was such that they have gone to the south side, is that so?—That is so.

7705. But the authorities at Peterhead have not brought that before the Government, have they?—They have not called their attention to it yet.

Mr. Buchanan.

7706. Is there any other subject you wish to speak to the Committee upon?—No.

Dr. Clark.

7707. I did not understand your statement about the harbours; are you in favour, not only of giving grants to large harbours like Peterhead

Dr. Clark—continued.

and Fraserburgh, but also of spending money amongst the smaller fishing harbours which were made by the Board of Trade originally; these harbours are not deep enough to take in the new kind of boats; are you for dividing the money equally amongst the big harbours and the little ones, or do you want the whole of the money for the big ones?—I think if a little harbour is necessary, it ought to be provided as well as a big harbour.

7708. But you are speaking more for the big harbours, are you?—I am speaking for the big harbours because the fishermen congregate at Fraserburgh and Peterhead, from all these places, from Stornoway, Thurso, Moray Firth, and South Firth, they all congregate there to fish, and consequently a harbour there to accommodate them is of advantage to the whole coast.

7709. You said there were some fish-curers who did not agree with you at this big meeting, did you not?—No, I think I referred to the close time for herrings then.

7710. Not in reference to the petition to the Fishery Board?—No, the fish-curers agreed to the petition; they were all unanimous in regard to this petition, but some fish-curers were in favour of a close time for herring fishing.

7711. You mean those who go to the fishing on the west coast of Scotland first, and your theory was that they wanted to get their herring into the market first, and get a good price before you came to compete with them, that was your ground, was it?—Yes, and another reason was that those who cured at Stornoway for the fresh market found the east coast people running them a very close race, and taking down their price, and, I think, you will find that is at the bottom of the close time question.

7712. Have there been complaints that since the trawlers have been driven out of the Moray Firth, they are much more active on your Aberdeen coast further south?—Yes.

7713. Are your fishermen complaining that the fish are being driven away and they are not able to get what they used to get?—Yes.

7714. So that the probability is your coast may be cleaned out and nothing done to stop it, is it not?—Quite so.

Mr. Harry Foster.

7715. Did I understand you to say that you favoured an extension of the territorial limit?—Yes.

7716. Did I understand you also to say it would be no good unless it could be extended to something like 12 or 13 miles?—It would be no good to the Aberdeenshire coast, where the breeding grounds are that distance off.

7717. This petition you have referred to asks that an international conference may be summoned, does it not?—Yes.

7718. Could not the territorial limit be extended without an international conference?—That is a matter I can hardly fancy. It has been suggested that, were you to increase your territorial waters, a foreign flag might be hoisted upon the trawlers, and, consequently, the law evaded. The petition first suggested an inquiry, and if as the result of that inquiry it was found

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Mr. MITCHELL.

[Continued.]

Mr. Harry Foster—continued.

that beam trawling was the cause then to take the course suggested.

7719. Why does it suggest an inquiry; was there any doubt in the minds of those you represent as to the facts?—There is no doubt in their minds, but they believe there may be doubt in the minds of the Government.

7720. They do not suggest an inquiry because they have any doubt at all themselves, do they?—Not at all.

7721. They are quite clear in their own minds that steam trawling is the cause of the mischief, are they?—Yes. I have a few copies of the speeches delivered by the fishermen at that meeting; if you wish for one you may have it, you will find fire enough in them.

Chairman.

7722. Do not you think your suggestion rather a hard one, that all the money received from the herring brand, in places like Peterhead, Fraserburgh and Aberdeen should be spent on those places, locally, when that money is received from the boats which hail from the ports all along the coast of Scotland?—It is to provide the accommodation which they require and want.

Chairman—continued.

7723. But they only want that accommodation, we will say, at Peterhead, for a very few weeks in the year, do they not?—Just so.

7724. Whereas they use their own little harbour for, probably, five or six months in the year?—But the harbour is at present large enough for the Peterhead fleet, and the extension would be to accommodate the others.

7725. But you must remember also that it is to the advantage of Peterhead and the fish-curers and the trade of Peterhead that these boats should fish from there?—I recognise that.

7726. It is not entirely a one-sided arrangement therefore, is it?—No.

7727. You have heard most of the evidence, have you not, which was given here to-day?—I have heard part of it.

7728. Do you generally agree with the broad lines of the evidence which you have heard with regard to trawling being the principal cause of any difficulties in our Scotch fisheries?—I speak as a fish-curer, and I have no practical knowledge.

7729. Do you buy fish from the trawlers?—No, no trawlers ever come to Peterhead.

Tuesday, 25th July 1893.

MEMBERS PRESENT :

Commander Bethell.
Mr. Buchanan.
Dr. Clark.
Colonel Cotton-Jodrell.
Mr. Furness.
Lord George Hamilton.
Major Jones.

Mr. Kearley.
Mr. Mallock.
Mr. Majoribanks.
Mr. Pinkerton.
Mr. Robert Price.
Mr. Renshaw.

MR. MARJORIBANKS, IN THE CHAIR.

The Hon. JOHN SCOTT MONTAGU (a Member of the House of Commons), Examined.

Chairman.

7730. HAVE you had considerable experience in fishing?—I have. I have done a good deal of all sorts of fishing with the net.

7731. Have you had experience of trawling?—Yes.

7732. Principally on the south coast, I think?—Yes.

7733. During your experience have you noticed any change in the number of fish you catch?—Yes. I think distinctly the fish are getting scarcer every year, certainly round fish, and I think flat fish too.

7734. Can you give us any reasons for that diminution?—The local reasons perhaps may be useful to the Committee. There are some local reasons, for instance, the great increase of steam-ship traffic. A great many more big liners come up and down the Solent at a very high speed, and I think that has some tendency to disturb the fish; also there is a peculiar local circumstance, namely, the continual practice with big guns at Hurst at one end of the Solent, and Spit Head at the other, and the concussion to my mind, no doubt, drives the fish away, and prevents them coming into the Solent to a great extent.

7735. I suppose the chief method of fishing there is trawling, is it not?—Yes, it is the chief method; and there is almost as big an industry for shrimps and prawns as for flat fish.

7736. Is there also a diminution in the take of shrimps and prawns do you think?—I should say so, on the whole.

7737. To what do you attribute that?—That may come from several reasons. I think, perhaps, to a certain extent, they are over-fished in places, and fished, perhaps, as times when they are in a spawning condition.

7738. Is there much steam trawling in the district you speak of?—No; there is not much steam trawling; there is a certain amount of trawling by steam yachts, but there is no regular industry of steam trawling that I know of in the district.

7739. What is the trawling done by?—0.93.

Chairman—continued.

Mostly by small fishing boats from 20 to 30 feet long, worked by the local fishermen, and they are practically trawling, more or less, eight or nine months of the year.

7740. Is there any complaint on the part of the fishermen in your district against the trawlers?—I do not think so; I do not think they complain against the yachts trawling, or against the steam trawlers, because there are none to complain against really.

7741. It is more particularly, I understand, amongst the round fish that you think there has been a diminution?—Yes; I do. I think there has been a very serious diminution in round fish.

7742. You really do not attribute that to over-fishing so much as to these new conditions caused by the gun practice and the increase in the commercial traffic of the big Atlantic liners, I understand?—I think that is so to a certain extent, but also the selling of distinctly undersized fish has had a good deal to do with it, I think. Very small fish are sold, which, no doubt, are caught in great quantities.

7743. Would you be in favour of fixing a size limit under which fish of all sorts should not be caught?—I think it is much more practical, and certainly wiser, to fix a limit as to the size of fish to be sold rather than to fix the size of mesh, because in our district we are bound to use at certain times a small mesh, as we catch a great many prawns, which you cannot catch with a big mesh. In that way I think you would stop all intentional catching of small fish, although you might not stop their accidental catching at times.

7744. Would these small fish live if returned to the sea, as a rule?—No, they would not. I have made personal experiments as to that. At one time I had a well made in a launch which I used for trawling, and I used to put the fish in there and take a good deal of trouble to revive them before putting them back into the water, but in very rare cases they revived; as a rule 80 to 90 per cent. die, owing in my opinion to the pressure

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The Hon. J. S. MONTAGU, M.P.

[Continued.]

Chairman—continued.

pressure upon them by the stuff in the net, which chokes them.

7745. Have you any suggestion or remedies at all to make for this state of things?—Yes, I have; to a certain extent I am inclined to think first of all that there is a want of communication between the producer and the consumer. I think distinctly the retail price of fish is out of all comparison to the price the fishermen get for it. I do not know in what way it would be feasible to arrange that.

7746. Would you be in favour of abolishing the middleman's profit to some extent then?—If possible, or, rather, checking it to some extent, and giving more direct communication between consumer and producer.

7747. Have you any suggestion to make as to the way to do that at all?—I have thought over a great many ways. I have studied the question at Grimsby to a certain extent, and I think the co-operative supplies at Grimsby is a step in the right direction. I think the system might be established more widely in other parts.

7748. As you have already told us, you would make illegal the sale of all small immature fish, I understand?—Yes; I think that would be much more practicable than attempting to limit the size of the mesh. As to another point I think the Board of Trade ought to have more stringent powers to prevent the deposit of dredgings on fishing grounds, which is done now and has been done for several months before it is stopped. For instance, in the Solent the other day the dredgings of Southampton Docks were put for a good many weeks on rather valuable fishing grounds, and we had enormous trouble for weeks with our nets in consequence. In my opinion it has done very serious harm for at least a year or two on those particular grounds. I made representations to the Board of Trade and they have now ordered the dredgings to be taken outside the Solent and deposited outside the

Chairman—continued.

three-mile limit, and I do not think there will be any harm resulting now.

7749. Would you prohibit fishing on certain grounds?—I think perhaps that would be feasible on many parts of the coast, and I think that would be a step in the right direction. I do not know if the Committee are aware that in foreign countries that has been done with some success. I have seen a good deal of fishing in Japan and in British Columbia, where they have certain reserved rivers and things which tend to help the preservation of fish; they make sacred places for fish which are never touched. As regards the Solent I do not think it would be applicable; it is a very small piece of ground and it would be difficult to enforce anything of the kind there.

7750. Would not the local fishermen object to such a thing?—They would; and I think it would be very difficult to take a piece of ground which would be fair to everybody.

7751. Do you not think that the same conditions which applied to the Solent would be found to apply to the territorial waters all round the coast?—Not to the same extent. I think one might buoy out a piece of water in the North Sea which might be treated as sacred ground, more or less I am aware there are objections to it, and I only throw it forward as a suggestion, because I am aware that the more trawling there is done in estuaries and rivers the better it is, as it cleans the ground to a certain extent and prevents stuff growing on it which would otherwise foul it.

7752. Then you would be against any further restriction on trawlers, would you?—I think on the whole I should be, certainly on sailing trawlers; as to steam trawlers that is a bigger question and does not affect my district. Sailing trawlers, you see, have enforced times of idleness, such as times of storms and calms, and for some portion of the late winter and early spring in which it is impossible to work, so to speak; therefore nature provides a remedy.

Mr. WILLIAM CROUCHER, called in; and Examined.

Chairman.

7753. ARE you an old fisherman?—Yes.

7754. Where do you hail from?—Lymington.

7755. What sort of fishing do you generally carry on?—Trawling, and shrimping, and prawning.

7756. Are you successful?—Yes.

7757. Do you get lots of prawns and shrimps?—Sometimes.

7758. Do you think there has been any falling off in the number you get?—Yes.

7759. Since when have you noticed that?—These last two or three years there has been some falling off, but then that is on account of the weather a good deal. Of course, if it is warmer weather it makes a lot of difference.

7760. Then it is not from any over-fishing, you think, that the falling off results?—No, I think not; trawling is the principal work we do.

7761. Do you catch many small fish in your

Chairman—continued.

trawls?—Some we do; we cannot help catching some.

7762. Are they principally flat fish?—Yes.

7763. What do you do with them?—Some we save and some we throw away.

7764. Are the ones you throw away alive?—Some are alive and some are dead.

7765. What sort of fish are they principally?—Plaice, dabs, and little soles.

7766. Would you have an objection to a prohibition put on the sale of small plaice and soles?—They are not any good.

7767. You do not sell them, do you?—We do not sell them.

7768. But you kill them, do you not?—We do not kill them; some of them are killed, but we do not kill them, they kill themselves in the dragging on the ground and among the weeds.

7769. Is there anything you can suggest that would be of use to your particular fishing industry?

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Mr. CROUCHER.

[Continued.]

Chairman—continued.

dust?—I do not know that there is exactly anything.

7770. You heard Mr. Montagu's evidence, did you not?—Yes.

7771. Do you agree with him that the big steam liners going up and down the Solent have done a good deal of harm to the fishing?—Yes; those big steamboats do harm; they ought to be made to go up at half-speed. It would not make a quarter of an hour's difference to them in their passage. I have been on the shore when it has been low water and I have seen the little fish and shrimps knocked up high and dry. It is worse than a gale of wind, because the water runs right in and runs up, and drives all the small fish out on to the sand on the shore high and dry. I do not say it hurts at high water, but at low water it does, because the water is so shallow. You see there is the weight of water which breaks in, and it is worse than a gale of wind.

7772. Has that injured your prawning and shrimping, do you think?—Yes, I think it has a great deal.

7773. Do you also agree with Mr. Scott Montagu about the firing of the big guns injuring the fishing?—Yes.

7774. In what way do you think that injures the fish?—Because it jars the water so, and shakes them and disturbs them.

7775. Do you think it kills them?—It might kill some.

7776. You think it frightens them away, do you?—I think it frightens them away.

Chairman—continued.

7777. Where do you sell your prawns?—Lymington.

7778. Do you get good prices there?—No, we do not get very good prices for them; we sell them to a fishmonger there, Mrs. King.

7779. How is that; why do you not get a better price?—I do not know; because they cannot afford to give it, I suppose.

7780. What price do you get for prawns in the spring time?—Sometimes 3s. and sometimes 4s. a hundred.

7781. What price do the consumers pay for the same number?—We do not hawk them, we sell them all wholesale.

7782. But do you know what prices the people you sell them to get for them?—No, I do not know.

7783. Do you get very much higher prices in the winter, sometimes, for them?—We do not catch them in the winter, only in the early spring, and as long as they last.

7784. Do you do any other fishing except prawning and shrimping?—Yes, we go trawling for plaice and dabs or anything like that.

7785. Do you get much in your trawls?—Sometimes we do, and sometimes we do not.

7786. Is there anything else you wish to state to the Committee?—There is only one thing and that is as to the dredging.

7787. But, as I understand, that has been stopped now by the Board of Trade, has it not?—Yes, it has to be carried outside the Needles, and I do not think it will do any harm to anyone now inside the Wight.

Mr. W. H. WILLIAMS, called in; and Examined.

Chairman.

7788. Do you come from Falmouth?—Yes.

7789. Are you manager of the Falmouth Steam Fishery Company?—Yes.

7790. Is that a steam trawling company?—Yes.

7791. Where do you fish?—We fish beyond the three-mile limit in the Falmouth Bay.

7792. How many trawlers have you got in your fleet?—There are two steam trawlers now.

7793. What is their size?—About 90 feet long.

7794. What is the length of your beam?—We use about a 44 or 46-foot beam.

7795. Have you had good catches?—Sometimes.

7796. Are they falling off, or are they improving?—There has been a falling off, not very material, but there has been.

7797. Have you any complaint to make?—Yes, the one complaint we have to make is that we are not allowed to fish in the inner part of the bays during the time the fish forsake the outer grounds. That is to say, there is one portion of the year when the fish leave the outer grounds and come in shore within the territorial waters.

7798. What prevents your fishing at that time of the year in territorial waters?—A prohibition of the county council.

7799. Have the Cornish County Council prohibited trawling within the three mile limit?—Yes, but by steam trawlers only.

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Chairman—continued.

7800. Do you consider that has inflicted a considerable loss on you?—Yes.

7801. Why?—Because for those three months we are practically fishing at a loss.

7802. What ground did the Cornish County Council assign for this prohibition?—The grounds they assigned were, first of all, that the steam trawlers injured the nets and pots of the crabbers, and, secondly, they hoped to encourage the outer fishing; they thought that by stopping the inner fishing it would improve the outer fishing.

7803. What have you to say to those two reasons?—I have to say that they have not improved the outer fishing.

7804. Taking the first reason first, what do you say with regard to the injury done to the lines and the pots of the other fishermen?—We have not to any extent hurt them or injured them.

7805. Have you ever been brought up for damage done to lines or pots?—No.

7806. Have you ever had to pay compensation for damage done?—No.

7807. Have you had any complaints made against you by the fishermen?—No, very rarely indeed; I think we had one, but only one, solitary case.

7808. Are there other fishery companies besides yours which trawl in the same district?—Yes.

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7809. How

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Mr. WILLIAMS.

[Continued.]

Chairman—continued.

7809. How many steam trawlers are there trawling off the Cornish coast?—Only two.

7810. Only your two?—No, they are not ours. We, finding fishing not productive, have turned our attention elsewhere, so we practically are not a fishing company now. These two trawlers I mentioned are owned by other firms.

7811. What have you done with yours?—We have sent them towing. We have ceased operations as trawlers on account of the prohibition of the county council partially, and partially because the fishing was not remunerative enough. When we started there was practically no trawling done. There was just one old sailing trawler in which the men went out just as they pleased, and we were practically without trawl fishing. The fishing company, of which I have been the manager since its formation until we gave up fishing just now, started steam trawling. We put a couple of steam trawlers on and we were doing very well there. The result was that other people wanted to share, and instead of two working there, in a short time we had eight or ten at work. The result of that was that what was really good fishing became practically very indifferent, and as we were not prepared to work our steamers without getting something for them, we quietly took them out of the fishing, when the opportunity offered, and put them into towing. Whilst a small ground like that can maintain two or perhaps three trawlers, it is evident it cannot maintain so many.

7812. Then it is partly on account of competition with these other trawlers that you have left off fishing?—Yes.

7813. During which months did you fish this in-shore water?—Of course we observed the limit placed by the Board of Trade, that is between the 25th of July and the 25th of November, we were not allowed to fish from sunrise to sunset; so we then fished these bays by night, and probably because of the fishing by night the damage was done to the nets and pots of the crabbers. There certainly would be no reason for doing any damage to these crabbers, or to their pots or nets, if the trawling was done by day.

Commander Bethell.

7814. Is it not notorious all over the coast that trawling has done an immense deal of damage to the crab-pots?—I have heard so, but it has not been our experience.

Chairman.

7815. Was it in the winter months you fished these inner waters?—Yes, in the winter months.

7816. For what purposes do you think these fish came into the shallow waters; did they come for breeding purposes or for feeding purposes?—For feeding purposes.

7817. Do you think they were driven in by the rough weather in the winter?—Perhaps partly so; but I expect the feeding is better inside in the winter.

7818. I suppose it was principally soles and plaice you caught, was it not?—Yes, soles, plaice, brill, and turbot sometimes; not many brill and turbot; mostly flat fish.

7819. Have you any suggestion to make with regard to any modification which you would

Chairman—continued.

desire?—Yes, we should be glad if the restriction could be given up, at least for three months, so that whilst the fish from the off-shore come in-shore we may follow them.

7820. Have you anything else which you wish to state to the Committee?—No, I think not.

Mr. Kearley.

7821. You say these fish come into the in-shore waters for about three months in the year?—Yes.

7822. What three months would they be?—About November, December, and January, principally; probably a little before November; say, the end of October.

7823. Do you regard it as a hardship that you are not allowed to pursue these fish into the inner waters and capture them?—We do.

7824. Is that opinion common to all fishermen, or only to the owners, or those interested in steam trawlers?—It is certainly common to steam trawlers and sailing trawlers, because the sailing trawlers have the right to come in.

7825. Then, I take it, they have no grievance at all if they have the right to come in, have they?—No, the sailing trawlers do not object; it is only the steam trawlers who object.

7826. Then may I take it that it is simply considered a hardship by the steam trawl proprietors or those interested in them?—Yes, quite so.

7827. Is there any agreement on the part of the other fishermen in that complaint, or is there a general desire on the part of all fishermen that this restriction should be withdrawn as to steam trawlers?—No.

7828. Is it the other way about?—Yes, to some extent.

7829. Would you think, if the thing were put to a popular vote amongst the fishermen, that they would agree to this restriction being withdrawn in your favour?—No, but I think if it were put it to the popular vote of the whole community we should get it withdrawn.

7830. Do you mean to the vote of people who have no interest whatever in fishing?—Those who have not any pecuniary interest. You see, as consumers, we have a very direct interest, although not pecuniarily. During those four or five months we are practically without a fish supply as regards trawl fish.

7831. But the trawling industry is not a very flourishing one in the West, is it?—No, unfortunately it is not; and this is one of the steps which would lead to shutting it up and making it still less so.

7832. Has the matter never been presented to you in this shape by the fishing opinion, that if steam trawling gets headway the other fishing will die away, so that consequently it is a choice of the lesser of two evils: either killing the steam trawling or killing the local fishing industry?—That may be so in some neighbourhoods; I do not know that it would be altogether so with us.

7833. Is the character of the sea in that part of the country conducive to good steam trawling; is not the rocky character of the ground rather detrimental to steam-trawling?—The limit is very circumscribed over which they fish because

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Mr. WILLIAMS.

[Continued.]

Mr. Kearley—continued.

of the fact of the ground being so covered with shells beyond the limit that they trawl. You see it is a very expensive thing. When first we started it really was a great expense to clean up the ground which was fished by the sailing trawlers, and I take it, if any company had sufficient enterprise to go beyond that with steam trawlers, as soon as they had cleaned up the ground of all these shells they would probably get good fishing grounds. When we started we used to get tons of queens, but now we do not get any, because they do not go practically beyond what is clean ground, because they are satisfied with the day's work there.

7834. Do you catch much immature fish?—No, we do not; not in the in-shore fishing.

7835. The catch is generally satisfactory as regards size, is it?—Yes.

7836. Is it within your knowledge that in the North Sea, where the trawlers frequent, there are large quantities of immature fish caught; in fact, the largest percentage of fish caught consists of immature fish?—No, I receive the information from the Press only.

7837. I thought possibly you might have had some connection with the North Sea?—No.

7838. We have it that there is no complaint at all as to the existence of large quantities of immature fish in the West of England waters?—No, not from trawling.

Commander Bethell.

7839. May I take it from your evidence that steam trawling is much more harmful to fishing grounds than sailing trawling?—No, I should not admit that in our grounds.

7840. But you said just now, did you not, that the seven or eight steam trawlers which had been fishing upon those grounds made the fishing so poor that that was one of the reasons why you yourself gave up?—I admit the over-fishing.

7841. Then may I take it that you consider steam trawling will do damage where sailing trawling will be comparatively harmless?—I think not. I think if you multiplied the number of sailing trawlers in the same ratio as the steam trawlers have been multiplied they would have done the same damage.

7842. But as a matter of fact two or three

Commander Bethell—continued.

steam trawlers would do a great deal more damage by their work constantly going on, than a considerable number of sailing trawlers which are perpetually being stopped by natural causes, would they not?—Of course they would catch a great deal more fish.

7843. Do not you think that if the county council had not passed this bye-law prohibiting steam trawling within the territorial limits there would be much more probability of the fishing grounds being run out earlier than now?—I do not think so. I think the steam trawlers, unless they can get a certain amount of fish, will not continue fishing if it is not remunerative enough. I think probably they would have gone beyond the circumscribed ground that they have now, and of course they would have cleaned the ground beyond.

7844. Did each of your trawlers use two trawls?—No, only one.

7845. What length of beam?—Forty-four to forty-five feet.

7846. How long did they keep it down?—They would have a couple of hauls a day.

7847. That would be about six hours' hauls, would it?—Yes. Sometimes in the winter time they only made one haul a day.

7848. Can you tell me whether the fishermen generally in your locality are worse off than they used to be three or four years ago?—I think not, it is about the same; there is no material difference. They suffer very largely in respect to the round fish, I think. The long liners seem to take such a vast number of fish that our ordinary fishermen do not get much of. They use such a vast number of hooks, you see.

7849. Where do they work?—In the neighbourhood of the Lizard and the Black Head.

7850. What size boats are they?—About 40 feet long, and they use sometimes as many as a thousand hooks with three or four miles of line.

7851. It is true, is it not, that the fish will not take hooks in the breeding season?—No, I do not think they will.

Chairman.

7852. Is there anything else you wish to state for the information of the Committee?—I think not.

Mr. JAMES TALL, called in; and Examined.

Chairman.

7853. Do you come from Plymouth?—I come from Newton Ferrers, which is between Plymouth and the Start.

7854. Are you a fisherman?—Yes, principally engaged in shell-fishing.

7855. Which you fish for with pots, I suppose?—Yes, crab-pots.

7856. Have you ever had any experience of your crab-pots being interfered with by trawlers?—No, not at all.

7857. Are there any trawlers fishing on the ground that you fish on?—No, they cannot for the rocks.

7858. Is it rocky ground where you fish?—Yes.

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Chairman—continued.

7859. What have you to tell the Committee about the condition of the crab fishing in your district?—I consider that the crabs are getting scarcer, and the reason of their getting scarcer is that as the size of he-crabs now is limited to four and a-quarter inches, there are five or six sometimes sold for one crab. A tally crab is eight inches, and they will put in four or five small ones to make up one, a practice which is killing them off. I suggest there should be a rule that a he-crab should not be caught under six inches.

7860. You cannot help catching them, can you?—You cannot; they will go into the pots, but they should be thrown back again if too small,

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Mr. TALL.

[Continued.]

Chairman—continued.

small, and I think you will find, if all these small crabs are thrown back, it may not be for the first year, but in two years it will make a lot of difference to us, because when the small crab casts his shell it is about twice as large. He might do that in two years, and that will make a lot of difference to the crab-catcher. Then, again, as to lobsters; eight inches is the size for them, but they have been selling them, they tell me, at six inches, which never ought to be allowed. I suggest, in order to stop that, that the seller should be prosecuted as well as the catcher, because while they sell them in the market the catcher will send them there.

7861. Then would your idea be to prohibit the sale of all these small shell fish?—Yes, all small he crabs. The she crab is a smaller race, and I think if $4\frac{1}{2}$ inches were to stand with regard to them as the scale now is, it would do. The only thing is the white she crabs which are caught, instead of being thrown away, are broken up and put into the large pots for bait. That ought not to be done, for when you kill a white she crab you kill, perhaps, thousands of spawn. As a practical man I know that is right, and I think it ought to be stopped.

7862. Do you not think it would be rather a complicated affair to have one size for the male crab and another size for the female crab?—No, not at all, because an eight inch crab is a tally crab, a he crab, and there are thousands of she crabs which will never come to that size at all.

Commander Bethell.

7863. Can you easily tell them apart?—Yes, there are thousands of she crabs which will never come to that size at all. You may crab in some waters on the east part of our fishing and across Plymouth Sound you will never catch a she crab larger than about $4\frac{1}{2}$ and $4\frac{1}{2}$ inches, and I do not believe myself they grow any larger.

Chairman.

7864. Is that a view which would be generally accepted by the fishermen?—Yes, I am here to represent their view to-day.

7865. Are you here only to speak about the question of crabs and lobsters?—Yes, crabs and lobsters and cray fish.

7866. In all these cases would you have a size limit?—Yes.

7867. You would have that size limited as far as the male crabs are concerned to six inches, would you?—Yes.

7868. And eight inches for the lobster?—Yes, that is as the scale is now.

7869. Then would you leave the scale alone for the lobster?—Yes.

7870. Then all you suggest is that the scale for the male crab should be increased to six inches, is it?—Yes; instead of $4\frac{1}{2}$ inches.

7871. Do you think that will make a difference?—I am sure it will make a lot of difference.

7872. But surely, after all, the increase in the number of crabs depends more on the female crab than on the he crab, does it not?—Yes; and then if you stop the killing of the white ones you will do that. There are hundreds of the white ones killed every year for bait.

7873. Would it not be a difficult thing to stop

Chairman—continued.

it?—It would be like other things, some one would have to look after it.

7874. But you would require a policeman on every boat almost to do that, would you not?—No; if there was one up and down the coast from Plymouth it would do.

7875. But he could not see exactly what each fisherman was doing with his own particular crab-pot, and if a fisherman wanted bait, surely the white crabs which comes to his hand would be the most convenient to use, and no one would be the wiser?—If such an Act is passed, you will soon have one splitting on the other; it would be a very easy thing.

7876. Do you think it would be practicable?—Yes.

7877. Is there anything else you have come here to tell the Committee?—No, nothing, except as to the shell fish; they are getting scarcer, and we want to devise some plan by which to increase them.

Mr. Renshaw.

7878. Is the limit you suggest a local limitation in your own locality? Do you mean it to be a general application as to size or not?—I mean from Plymouth to Torquay.

Mr. Mullock.

7879. Have you had any experience besides the experience you have had at Newton Ferrers?—No.

7880. Then do you recommend these sizes of crabs only for your own part?—For the crabbing from Plymouth to Tor Bay.

7881. How would that work when the crabs got into the London market if you had different sizes?—You can have the he and the she crabs. There is the male and the female.

7882. Would you limit it to these sizes for all parts of the coast?—I will go so far as to say for the district our committee extends to, that is, from Lyme Regis to the Rain Head.

7883. Do these $4\frac{1}{2}$ -inch she crabs breed at that size?—Yes, hundreds of them, and I will tell you how I know. When we go in from sea we put them into what we call a store pot, we put 20 dozen, perhaps, together, till the smack comes to take them away to Southampton, and when we take them out we find some of them have berries on them; that is how we know they will breed at that size.

7884. I suppose crabs caught in pots are not hurt at all, are they?—No.

7885. They are not damaged like fish caught in nets in any way, are they?—No, because we have to take them out of the pots, and if we miss one day, when we come again there are hardly any left in, they creep out themselves.

7886. Are you a member of the Devon Sea Fisheries Committee?—Yes.

7887. What is the feeling on that committee about the payment of expenses of members in the position you are in yourself?—The matter has been brought forward, and they fancy that if the practical fisherman who belongs to the committee does not get paid he will not be able to attend, because we cannot afford the time.

7888. Do you think when the committees are appointed again, you will get as many practical fishermen

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Mr. TALL.

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Mr. Mallock—continued.

fishermen upon them, as there have been this time?—No, I do not think we shall, because we cannot keep on attending.

7889. Do you think the fact of their having to pay their own expenses will keep them from attending?—I am sure it will. If I go there one day I have to get a man to go to work in my place, and I have to pay that man 4s. Then it costs me 15s. expenses in trains going there and back again. I shall have to pay a man for three days I have lost in coming here. I shall have to pay him 24s.

7890. With regard to your expenses to Newton Abbott from Newton Ferrers, what does it cost you each journey, do you say?—Fifteen shillings, or else I have got to walk 24 miles, and then it would cost me a little less. But if I go one way it will cost me all 15s.

Chairman.

7891. Do you have to drive some distance?—Yes; but I have always walked that bit, because I cannot afford to pay for driving.

Mr. Mallock.

7892. Is that the expense besides the 4s. for your day's work?—Yes.

Mr. Mallock—continued.

7893. Are any of the committee paid their expenses?—Not that I know of.

7894. Are not the representatives from the boroughs on the committee paid out of the borough fund?—I do not think there is anyone paid, and I hear no one wants payment except only the practical men.

7895. Do the salmon conservators attend your committee?—Yes.

7896. Is it a grievance on the committee at all that the salmon conservators out-voted in any way?—No; I have not heard it.

7897. Have you had any complaint at Newton Ferrers about the trawlers interfering with you?—No; not at all.

7898. Has there been any complaint in Start Bay?—Yes.

7899. But by the recent bye-laws of the recent fishery committee, that is all settled, is it not?—Yes; they keep outside.

7900. And we may assume, may we not, that there will be no further complaints from the crabbers about the trawlers?—Quite so.

7901. In that way, do you think the Sea Fisheries Committee has done some good?—Yes; I believe so.

*Mr. JAMES HOLBRY, called in; and Examined.**Mr. Kearley.*

7902. ARE you a practical fisherman, residing at Plymouth?—Yes.

7903. Have you been fishing practically all your life?—Yes, from 13 years of age.

7904. Are you a master man now?—Yes.

7905. Owning your own boat?—Yes; I have worked up from the lowest grade.

7906. Will you give us your experience as to the falling off or otherwise of the fishing in your own locality?—My experience of our locality is this, that there is no falling-off of fish in our grounds except as to the hake. There has been a considerable falling-off in the hake within the last three or four years, but the lemon soles and plaice have increased, particularly this summer; we take it as practical men, owing to the very fine summer we have had. Owing to the calms we have had, the nets have not been shot so frequently, and the fish have had time to replenish themselves.

7907. Do I understand you to say there is a falling-off in the visits of the hake?—Yes.

7908. The hake is a migratory fish, is it not?—Yes.

7909. Were those visits fairly regular within your experience?—Yes, until the last four or five years.

7910. At what period of the year would they arrive?—They would arrive on our coast from October up to January and February and remain there.

7911. With annual regularity, do you mean?—Yes, within a month.

7912. Year after year?—Year after year.

7913. Did the fishermen really anticipate their arrival?—Yes, that was our harvest.

7914. Do I understand you to say that the

Mr. Kearley—continued.

visits of these fish have become infrequent?—Very infrequent.

7915. To what do you attribute that?—I attribute that to steam trawling.

7916. In what way?—The last three or four years the steamboats have taken to going away on the Spanish coast into the Bay of Biscay, and they have brought quantities of hake from there; considerable lots of hake they have brought into the Plymouth market from that coast. They go there in the months of April, May, and June. The hake at that time leave that coast, and then we find them bringing hake from the St. George's Channel. Before, we used to think from that place they used to strike our shores, but they do not now, since the trawlers have taken to fish those waters.

7917. Then is it your contention that the steam trawlers pursue these fish from locality to locality?—Yes, according as the fish migrate from one place to the other.

7918. Is it to that you attribute the falling off in the frequency of the visits of these fish?—Yes; I do not think the falling off would be so much if the large hake that are landed was all that is taken. I have seen quantities which are taken which are not fit to be landed, baby hakes we call them, and then thrown overboard again. It is all dead. It is a known thing the youngest fish dies first.

7919. Have you any steam trawlers in Plymouth?—No, not steam trawlers.

7920. The trawlers you are referring to are North Sea trawlers, I understand?—Yes, and they come also the other side from Bristol and other places, where they have steam trawlers which

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which work on the same principle as the Hull and Grimsby trawlers.

7921. I understand you to say that there is no falling off in the quantities caught?—No, not in our own grounds.

7922. Is the size well maintained?—It is about the same, so far as I can remember.

7923. Is there any general concurrence among the fishermen that the quantity of what we term immature fish is increasing?—No, there is no complaint with us in that respect. The fish runs about the same as it did.

7924. Is there any way to account for that being so, because it is not so everywhere. Do you attribute it to any peculiar local conditions, or what do you attribute it to?—The fact of our grounds being so prolific I attribute to their not being over-fished. Our boats have stood at pretty well the same number almost as long as I can remember, namely, between 60 and 70, and this time of year our ground gets considerable spells.

7925. Yours are sailing trawlers, and consequently the weather makes a difference to your fishing, does it not?—Yes; the weather makes practically a close season. Now, this summer we have had sometimes calms of a week and not a net has been shot, and when we have gone out we have found good fish, lemon soles in particular.

7926. You probably heard the evidence given by Mr. Williams, did you not?—Yes.

7927. He seems to suffer from the grievance that the trawlers are not allowed to fish the territorial waters; would you object to their doing that?—I, as a practical fisherman, quite agree with what the Cornwall Committee has done in reference to those territorial waters. What I have seen I know to be correct. I have seen the Falmouth trawlers go with their sterns nearly into the shallow bays, shoot their trawls, and tow them out into the deep water.

7928. Was that law the outcome of complaints of fishermen in Devon and Cornwall?—That is so. Falmouth is a bay that covers 9 or 10 miles of ground, we will say, nearly from the Dodman to down off the Manacle Point, and I have seen those boats laying out for towing vessels, and also trawling between times. They are continually going up and down off Falmouth Bay, and not only there, but I have seen them in Mevagissey Bay, and there was a complaint from the Mevagissey fishermen and crabmen about them.

7929. Do you think trawling, as an industry, is increasing in the west?—No, it has stood pretty well the same as long as I can mind, in our place.

7930. Is there any other evidence which you would like to offer to the Committee?—Yes; I should like to tell the Committee my experience of the Irish Coast. I have been over there fishing a good deal. Some nine years ago, mine and 13 other vessels fitted out for fishing on the Irish coast, and the fish was in abundance there. We were fishing off the mouth of Waterford River, and there was abundance of fish on that coast. We had four vessels acting as carriers with ice, to bring the fish to

Mr. Kearley—continued.

Plymouth market. We never landed it in Ireland.

7931. Were they steam carriers?—No; they were our own vessels. There were plenty of vessels hailing out of Waterford also, fishing there, and making a good living. We carried that on for three years, and made very good summers. By-and-bye, down came a regular fleet of steam trawlers, and they worked that place from off the Hook Point, close up to inside the Saltees lightship as close as they could go, and to-day there are not three trawlers working, and getting a living off that coast. There are six hailing from Dunmore, out of the 20 that were there; three of them are working at Milford, and the other three out of Dunmore, but none of them pay. The ground has got barren. They all attribute that to steam trawling, not on account of what the steam trawlers caught, but on account of what they killed with their heavy gear and their heavy ground ropes. I know that there is a proper food for the fish that go there, and particularly for the sole, for I have found the worms in their bellies. I take it that those heavy ground ropes have killed the food, and the fish do not go there at all now.

7932. Was that ground outside or within your area?—It is outside our area, but my contention is that steam trawling is very injurious, and is the cause of most of the depletion. The other channel is getting like the North Sea; I have fished the other channel, but since the steam trawlers have been there we cannot get the fish like we used to.

7933. Are you in favour of any extension of the areas?—I quite fall in with the limits that the Devon Committee have fixed.

7934. Do you think they are satisfactory?—Yes, I think they are satisfactory to all our people. Nature itself has formed a limit for us; we cannot trawl within a mile and a-half of the shore on account of a ridge of rocks, unless we go inside of those rocks; but the limit they have defined will protect that. I believe myself, as a practical man, that a certain class of fish breed in these little bays. I have seen lots of little turbot, brill, and sole, taken from those sandy bays.

7935. Referring to the Devon Fishery Committee, I ask you if you are in favour of the extension of the fishing areas. I mean are you in favour of increasing the distance within which the trawlers could not fish?—No, I do not know that I would extend it any further than it is. Do you mean to extend it to the territorial water limit?

7936. The trawlers are not allowed to fish now within the territorial limits, are they?—Yes, they are. But I am quite in favour of the limits defined by the Devon Committee.

7937. I am speaking of steam trawlers?—As far as I am concerned, I would prohibit steam trawlers from fishing within 20 miles of the shore, for I believe in time the steam trawlers will cause one of the chief food supplies of England to become extinct.

7938. Can you speak as to what the limit is for Devon?—No. I know the limits defined for us from

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[Continued.]

Mr. Kearley—continued.

from headland to headland, and that I agree with, because I think in the bays within those headlands there are many breeding places where certain fish go to breed. I have been in those bays before, and have taken fish from them.

7939. Are trawlers allowed to fish within these headlands now?—No, not at all.

7940. And consequently does that provide in your opinion a good breeding ground?—Yes; some of those bays I think are proper breeding grounds for a certain number of fish.

7941. As regards the formation of these local district fishery boards, have you any opinion to offer?—Yes. I cannot fall in with the way they are constituted for this reason. We, as trawling people at Plymouth, have no representation at all in a sense. At the beginning there were twelve names nominated, some fishermen and some tradesmen, about the neighbourhood, and these names had to go to the Board of Trade for them to select the members from. For the Plymouth fishing industry, that is, the trawling industry, a shipbuilder was selected. All credit is due to him as a gentleman, but he is not a fit and proper person to represent us, because he does not know a trawl from a boat, I was going to say, and I do not think it is right that he should represent our interests on the committee. We only have that one representative to represent the fishing interest at Plymouth on that committee. Of course I am speaking of the trawling industry.

7942. Do I understand you to say that this man was nominated by the Board of Trade?—He was selected by the Board of Trade. We have a branch of the National Sea Fishery Protection Association, and from that there were twelve names nominated and sent to the Board of Trade, and this gentleman was selected to represent the trawling interests, but being a shipbuilder, I, as a fisherman, do not think he is a fit person to represent us in things he does not know anything about.

7943. If you had the opportunity could you find a man among the trawlers who would command the confidence of the people?—We could find men who would be competent to act, but the matter of pay steps in. Each day a man stops ashore it means a week's loss of him. For instance, if the committee sat on a Monday he would have to lose the Monday, and the week as well. We cannot ship a man for a day; we ship for a week. We work on that system.

7944. As I understand, the expenses of members are not paid by the county?—I understand they are not paid to the members of this committee.

7945. Are you urging now that there should be some remuneration?—Yes.

7945*. At all events, that expenses should be paid?—Yes. I think that then we should get a practical man on that committee.

7946. Do I understand that you would be able to return, provided you had the opportunity, a man to represent you on this committee in whom you would have perfect confidence?—Yes.

7947. But that until some remuneration is given, or some guarantee for expenses is given, you would not attempt to send a man?—No, we could not afford to do it.

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Mr. Kearley—continued.

7948. Have you any local funds of your own?—No, we have no local funds for that purpose.

7949. I would remind you that these men would go to this committee to protect your interests?—Yes, but then they do go now, and murmur on the same question, as they have told me. They grumble equally as much as the fishermen, although they may be shipbuilders.

7950. Are you in favour of any restriction as regards the size of fish?—It would depend on the limit.

7951. Do you know what the limits recommended by the National Sea Fisheries Protection Association are?—Yes. I do not fall in with them; I think some of them are too high. With all the limits they may put on they will never protect the fish life from a trawl, for this reason: My practical knowledge tells me that the youngest fish dies first in the net. I think some of the young fish of that suggested size are dead after it has been in the trawl half-an-hour; it has not the strength; it is young and weak. The big fish are strong, and live when let out of the trawl, but the younger fish are nearly always dead unless the net has been overboard a very short time; then you might get most of it living.

7952. But the ordinary custom is to keep the trawl down for the length of the tide, is it not?—Yes, and more than that; sometimes 10 and 11 hours off our place.

7953. As long as that?—Yes, that is where the steam trawler has the advantage of us again. For instance, a steam trawler can make almost three hauls in a day, while we can only make one. After we have towed all the lee-tide we have to work all the next tide to get into berth again, while they can trawl up or down, particularly in our channel.

7954. Are you of opinion that even supposing the landing of immature fish were prohibited that the catching must necessarily go on, and that the only result will be that the immature fish caught would be returned again to the sea dead?—That is so; that is my opinion, and the opinion of the fishermen is this: when it is thrown overboard dead it is no use for food for the other fish; it may be for the crabs and lobsters, but I believe fish are very particular over their food, and I do not think it will feed on anything that lies still on the bottom, and when it gets decayed and polluted it is better out of the way.

7955. Are there any other matters that you would like to bring before the Committee?—I do not know that there is anything in particular.

Major Jones.

7956. You have said that in your opinion the disappearance of the hake from your district is consequent upon its being caught in migration?—Yes.

7957. Are these hakes brought to Plymouth afterwards?—Some of them, and some to Milford and other markets.

7958. You told us that there is a large quantity of immature fish brought with the large fish to Plymouth, did you not?—No, I did not. I told you there were large quantities of immature fish of that kind; small hake, small cod, small ling, which migrate, and they are all thrown overboard,

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[Continued.]

Major Jones—continued.

overboard, for it would not pay to put them in ice.

7959. Is this immature hake caught by your own fleet round Plymouth?—We cannot get to catch them. No sailing vessel can go to the Bay of Biscay and bring fish fresh to Plymouth. They go right over to the Spanish coast. I take it that hake is a native of the Spanish coast, myself, as a practical man, and that it migrates according to the seasons for food.

7960. What remedy have you to propose as to the treatment of the immature hake that are caught by these steam trawlers?—I do not know of any remedy. I know they are all dead when they come out of the trawl, and I do not know of any remedy to restore life in any shape or form.

7961. In short, do I take it that you condemn the steam trawler in every respect?—I do.

7962. As detrimental to the fishing interests of the country?—I do, not only in our neighbourhood, but all round the British Isles. If the fishing has fallen off to the extent we read about, I say it is owing to steam trawling, because, before steam trawling came into existence the fish supply was the same year after year. I never heard anything about the falling-off of fish until the steam trawling was introduced, and then they got formed into such large companies, they paid a good dividend, and fished to such an enormous extent that they really swept the seas. I think myself, as a practical man, that steam trawling will run itself out; I do not think it will pay in the course of a few years; some does not pay to-day.

7963. In point of number and tonnage and boats, does your fishing fleet compare with 20 years ago?—At Plymouth 20 years ago we had as large boats as we have got to-day, but I can mind when they were smaller.

7964. Would you say that the average size of plaice and soles is better than it was?—I do not know about the size being better, but the quantity is better, particularly the lemon sole, and the plaice on our own grounds have increased.

7965. Do you say that in the matter of size the average has gone down, or stands about the same?—I think it is about the same. I do not know that there is any difference in the size.

7966. Do you agree with other witnesses that this is consequent upon the close time which is afforded where sailing boats are used, by storms and inclement weather;—Yes, I do. Nature, I take it, provides a close time for us.

7967. Have you had some experience with the steam trawler?—Never in my life. I have been on board one, but I have never been fishing in them.

Chairman.

7968. You said you were in favour of a limit of size for flat fish being imposed by law?—Yes, at a certain size I would be in favour of it; if there was any method which could be adopted to save fish life, I would be in favour of throwing small fish overboard.

Chairman—continued.

7969. What size would you agree to?—A seven-inch plaice and the same for a merry sole I do not think would be out of the way.

7970. What size would you say for soles?—Seven and a-half to eight inches would not be out of the way.

7971. Would you object to an all-round eight-inch size for flat fish?—Individually I would not myself, if it was possible to save it alive. I never saw the time yet when we would wish to save this, because it is no good to us on the market. All this small stuff is no good; it only curtails the price of better fish.

7972. Do you catch large quantities of this fish at different times on different grounds?—Not in our own ground. I have fished a good deal in Whitesand Bay in my time, and there is a lot of small fish taken there.

7973. The advocates of a size limit say that the effect of it would be to prevent boats fishing on the grounds where these small fish are?—Yes, I understand that.

7974. Do you think that would be the case in your neighbourhood?—No; I should say from 80 to 90 per cent. of the fish we take in our own grounds are well matured fish, particularly in the summer months.

Mr. Kearley.

7975. They are above these proposed limits of size, are they?—Yes; but we cannot catch a small plaice or a small dab, a merry fish we find more in deeper water.

Chairman.

7976. Would you altogether object to the size limit suggested by the International Sea Fisheries Conference of 10 inches for soles and 12 inches for plaice?—Yes. I thought, being a practical man, it was rather an absurd scale. Take the turbot, for instance, which attains a very large size; we get them very nearly as large as this table; and they fix a size of 12 inches for that, but the lemon sole they want to fix at 13 inches. It never gets more than 15 or 16 inches in length, and I think it rather absurd that a fish which is so large should have a less scale put upon it than the merry sole, which, when fully developed and grown, never reaches more than 18 inches down our way.

7977. You told us that your boats were as large 20 years ago as they are now, but you did not tell us if the number had increased?—No; as far as my experience teaches me, the number stands pretty well the same. If one dies out with old age some one builds another and brings it into the market.

7978. Do the catches remain pretty stationary too?—Yes; but our vessels now are more expensive than they used to be; there is more expense in working them.

7979. Are they bigger?—No, they are not larger, but steam capstans for hauling the nets and so on have been introduced.

7980. Is there any other information which you wish to give the Committee?—No.

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Mr. JOSEPH KENT, called in; and Examined.

Mr. Kearley.

7981. ARE you a practical fisherman and smack owner residing at Plymouth?—Yes.

7982. How many years have you been fishing?—Thirty-five years.

7983. Since when have you been a master?—I have been 25 years master continuously.

7984. And fishing, I suppose, from the port of Plymouth the whole time?—Yes; the whole time.

7985. Have you had any experience of steam trawlers in your waters?—No; not in our waters.

7986. Your waters are not frequented by steam trawlers, I understand?—No.

7987. Is there any reason for that?—The reason is this; on our grounds mostly our fish consists of offal, that is, common fish, and that will not pay steam trawling.

7988. Is that the reason?—That is mostly the reason.

7989. Then you do not attribute it, do you, to the rocky character of the bottom and so on?—No; you must understand where these steam trawlers go, they go for head-fish and head-fish alone. Of course, they catch anything, but their great idea is to catch great quantities of best fish, such as soles, turbot, brill, and all that kind of fish, and that is very scarce on our ground. Our ground consists mostly of flat fish and hake of which we used to catch great quantities.

7990. We have heard the hake is diminishing?—Yes; there is none there to catch, now.

7991. It ceases to frequent the Cornish and Devon coasts, does it?—Yes.

7992. The explanation offered by Mr. Holbry you have heard, have you not?—Yes.

7993. Do you agree with it?—I quite agree with it.

7994. Namely, that the steam trawlers follow these fish about and consequently there are very few of them left?—Yes. Our contention is, as practical men, that the hake are like the birds of the air; they migrate from place to place. Years ago, in the month of November, we used to expect the hake within a week. We used to say to each other, "The hake will be here next week," the first week in November, and they used to come within a few days. We used to see the birds of the air, the cormorant would follow the pilchards. The pilchards would come first, the cormorant would come next, the blow-fish, a species of whale, would come next, and then large bodies of hake would make their appearance on the coast. That we do not see anything of now; we see scarcely any pilchards, and no hake, and we attribute that to the fishes being caught before they get a chance to migrate to our grounds.

7995. Since when has that falling off happened?—Within the last four or five years.

7996. Have you any evidence to prove that the steam trawlers have been frequenting these localities on the coast of Spain and St. George's Channel during that period?—Yes; they are always there.

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Mr. Kearley—continued.

7997. Were they there prior to that period?—No.

7998. Then it is a coincidence, is it, that steam trawlers have been frequenting these localities from whence these fish come?—Yes, we do not object to what they catch altogether, but there are great quantities of what we call baby hake and boy hake, intermixed with large hake. It is only the big hake which is saved, you understand, the rest is thrown into the sea.

7999. That is what we term immature fish, is it not?—Yes, immature fish.

8000. Does that tend to destroy the fish, do you think?—Yes, of course it does.

8001. Are these steam trawlers able to fish, over and over again, particular spots?—Yes.

8002. Have you ever observed how you mark these localities?—They always mark their localities. I will tell you what they do. They carry what we call a dan, that is, a large cork buoy with a flag on it, and when they fall in with bodies of fish they drop this cork buoy into the sea with an anchor, and they continually sweep round and round it until they diminish it altogether. If one steam trawler should happen to fall in with a body of fish and another comes along he sees that the other one has a buoy there, and there they flock; they diminish the fish in no time.

8003. Of course with sailing trawlers that would be impossible, would it not?—Yes.

8004. You could not concentrate your fleet on any particular spot, could you?—No, because we have to tow with the tide, and we could only make one haul a day, but the steam boats are continually dragging. In fact they have two sets of gear, one on each side. As soon as the bag is aboard on the one side what we call the cod end on the other is over the side.

8005. Are you in favour of any restriction as regards size being set upon fish?—I should fall in with Mr. Holbry's views as to that.

8006. Would you have any objection to an all round 8-inch size?—You must say what fish it is.

8007. Take plaice and sole?—Plaice and sole are not the only flat fish caught; we catch a great quantity of dabs which never come to 8 inches.

8008. What limitation would you put on dabs?—I should think 5 inches would be quite sufficient; they never grow to 8 inches.

8009. Do you think that would be a fair size limit?—I should think so, we catch great quantities of dabs at the present time on the Plymouth grounds. These dabs never grow to 8 inches, so it would be impossible to put an 8-inch limit on them, we should never sell one.

8010. With regard to the mesh of the trawl, do you think, if the size of the mesh were increased, it would afford a probability of some fish escaping which, with the mesh at present in use, do not escape?—You would have to make a very large mesh for any to escape.

8011. Because the mesh, I presume, becomes
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Mr. *Kearley*—continued.

taut, does it?—As the vessel is forging through the water at a great rate (we tow our trawls perhaps at three miles an hour) of course all the meshes of the net are closed; consequently all fish that goes down into the cod end is dead or drowned.

8012. Supposing this limitation of size were introduced, would it simply cause the fisherman to throw the dead fish overboard?—Yes, decidedly.

8013. It would not prevent the fish being caught, would it?—Not at all; you could not prevent it in any way.

8014. Have you anything else you would like to say to the Committee on the general question as affecting your particular locality?—I have heard the evidence of Mr. Holbry about the constitution of the Devon committees, and it has been asked whether we could get practical men to stand. I would have no objection to stand myself, but I could not fall in with paying my own expenses if I went, while a County Council man would have his pay. Of course they get their expenses paid from the borough funds, and our contention is that the fishery members ought to be paid as well.

8015. The County Council men are paid their expenses out of pocket, are they not?—Yes, out of the borough fund.

8016. Then, do you consider, on this question of expense, that it practically puts a restriction on the fishing industry?—That is so.

8017. I suppose you would merely ask for your expenses out of pocket, would you not?—Yes.

8018. You do not wish to receive any remuneration, do you?—No. But we should have to lose a week's work. If I was on the Devon Sea Fisheries Committee, and was summoned to attend at Newton Abbott next week, I should have to ship a master in my place for a week, because a man will never go for a day. That is the method we work on.

8019. You would scarcely suggest that the wage you have to pay that man for doing your work should be refunded to you, would you?—We think some of it should, and our railway expenses; that is all we ask for.

8020. You would be satisfied with your out-of-pocket expenses, your railway expenses, would you?—Yes, there would be no difficulty in getting practical fishermen to stand if that was so.

8021. Do you object to the constitution of this board, because it does not contain representative men?—Yes, that is it.

Mr. *Mallock*.

8022. It is only the fishery members of the committee you are referring to, I suppose?—Yes.

8023. Who are appointed by the Board of Trade?—Yes.

8024. And you think they should have their expenses paid, do you?—Yes.

8025. What does it cost a man to get from Plymouth to Newton Abbott?—Thirteen shillings there and back; that is the railway expenses alone.

8026. That is without allowing anything for the day's work, is it?—Yes.

Mr. *Mallock*—continued.

8027. And you would be quite satisfied, would you, if your out-of-pocket expenses were paid?—County Council men are allowed a guinea for the day's work, and we should be satisfied with that.

8028. The boroughs have power to pay expenses like that, but the County Council have not. It is only the representatives from Plymouth, Devonport, and Exeter who are the only ones that can be paid?—In Plymouth I know for certain if the County Council man is on the Devon Sea Fisheries Committee and he goes to Newton, he gets a guinea from the borough funds.

Mr. *Pinkerton*.

8029. What would you have to pay for a man in your place for a week?—About 2*l.* a week.

8030. You would be 2*l.* out of pocket, would you, by attending a committee meeting?—Yes, I should. You understand we are certified.

8031. Then it would be virtually 2*l.* 13*s.* which you would be out of pocket, would it?—Yes, if I did not have anything, but I should not object to be something out of pocket. I think we really ought to have part of our expenses paid.

Colonel *Cotton Jodrell*.

8032. I am not quite sure whether you were asked as to the sized mesh you used in your trawl?—Our size is five or six inches round.

8033. That would be 1½ inches from knot to knot, would it not?—Yes.

8034. Have you any wish to alter that size?—No. That is only one part of the net you must understand. It is about 10 feet which is that size, but the other part would be much larger, from six to 12 inches, and more than that.

8035. Are you satisfied with your net?—Yes, we are satisfied with it as it is now.

8036. Are you satisfied with the length of beam?—Yes.

8037. How much is it?—Forty-five feet.

8038. Is there a limit placed on it?—No, it is all according to the size and length of the vessel; there is no limit placed on it at all.

Mr. *Mallock*.

8039. I want to ask about the statistics taken by the Board of Trade; do you know how they are taken?—Yes.

8040. Do you think that is satisfactory, and do you think they get at the rights of it, or not?—Perhaps I have had a little more opportunity than most fishermen to see it, and I think it is impossible for the inspector to devote the whole of his time to take these statistics with the present salary he gets.

8041. Then do you think the present arrangements are not satisfactory?—I think in Plymouth it would take a man all his time, because our market is from morning to night, not like most markets, for a few hours in the morning; it is continuous all day.

8042. How much time does he give to it?—Perhaps two or three hours at the morning market. Then all that has to be converted into cwt. at so much per cwt. No odds how many tons of fish are landed on the quay, it has got to be

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Mr. Mallock—continued.

be converted to the best of his ability into cwt. at so much per cwt.

8043. Does he get all his information in the market?—He gets all his information from eyesight, from seeing what fish is landed, and he has to judge to the best of his ability.

8044. If he is not there all day, what does he do?—Consequently, he loses some weight.

8045. Have you ever compared the Board of Trade returns with the railway returns, for instance?—Yes; but there is no analogy between them, in my opinion. I know the Board of Trade returns perfectly well from year to year.

8046. Do you think they have the means under the present system of getting accurate statistics?—It could be done if a proper salary was given, in my opinion. I should have no hesitation in doing it myself, that is, to the best of my ability, and I could get at it as near as possible.

Mr. Renshaw.

8047. In regard to the expenses incurred in going to the meetings, has any suggestion ever been made to the fisherman themselves as to the importance of having their own representatives at those meetings, and that they should club together and pay the expenses of their own representatives. Has that ever been discussed?—It has never been discussed.

8048. Would it be altogether an unreasonable thing that they should consider that?—It would not be, but we have almost societies and protections enough to contribute towards the expenses, I think.

Major Jones.

8049. Are you in favour of a size limit for flat fish of eight inches?—Yes.

8050. But you make an exception, I understand, in respect to the dab of five inches, do you not?—Yes.

8051. You cannot catch the dab of five inches without getting the sole and plaice of five inches or so, can you?—No; that is so.

8052. Have you any remarks to make to that?—No, not at all. When you are dragging the net along, all that is before the net must go in; in fact, if we were down there we should all go in.

Major Jones—continued.

8053. Then that pretty well does away with your safeguarding the dab, does it not?—I think the dab will safeguard itself, because it never come to that size, it is a small fish. When I was at school I used to see in the books "d-a-b, dab, a small flat fish," and that ends it.

8054. My point is, that you cannot catch the dab, although he may be a mature fish, without catching small sole and plaice?—No.

8055. You catch immature fish, I take it, in your fleet, do you not?—Yes.

8056. What do you do with them?—Heave them overboard.

8057. How long is the trawl down?—Sometimes six, eight, 10, and 12 hours.

8058. Then the fish, for the most part, are dead, are they not?—All dead very nearly, with the exception of very strong fish; it might be that a conger or a halibut would be living.

8059. Have you any suggestion to make as to how this immature fish can be saved?—It could not be saved, it would be impossible to save it.

8060. One of the previous witnesses said that he would place the limit within which steam trawlers might be allowed to fish at 20 miles from the shore; did you hear that evidence?—No.

8061. Would you approve of that?—This is the ground we take: we disapprove of the methods of steam-trawling altogether; what they use is what I have just described, and if they fall into a nursery they destroy it in no time. It is the methods we object to. It is not fishing methods, it is destroying methods.

8062. If you placed this line far enough out it would be outside the nursery-grounds, would it not?—Oh, no, not at all; it would be right in the nursery-grounds, because you must understand most fish, as is proved by all scientists, breed in the deep sea. Some, when they are capable of taking care of themselves, leave their mothers and feel their way to the shore, and some stop in deep water; that is proved beyond all doubt; but for the most part they are all in deep water.

8063. Have you had any personal experience of steam-trawling?—No, none whatever; but I know the methods quite well.

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A P P E N D I X.

APPENDIX No. 1.

PAPER handed in by the *Chairman*, 11 May 1893.

LOCAL FISHERIES COMMITTEE (SOUTHAMPTON HARBOUR BOARD).

Dear Sir,

Harbour Office, Town Quay, Southampton,
26 April 1893.

In reply to yours of yesterday's date, the only point which our Committee desire to urge upon the Select Committee of the House of Commons, is with reference to the limits of size of fish which should be allowed to be taken. The fishermen of this district consider that the limits should be as follows :—

Flatfish, 8 inches in length ;

Soles, 9 inches in length ;

below which none should be taken, and they would strongly oppose any further restriction.

The Local Fisheries Officer, Mr. Walter Bowyer, would be prepared to give evidence on this matter.

Right Hon. E. Marjoribanks, M.P.

Yours truly,
A. H. Skelton, Clerk.

APPENDIX, No. 2.

PAPER handed in by Mr. Berrington, 16 May 1893.

TABLE No. 1.

TABLE showing the QUANTITY and VALUE of FISH landed on the East, South, and West Coasts, respectively, of *England* and *Wales*, in each of the years from 1886-1892, inclusive.

YEAR.	EAST COAST.			SOUTH COAST.			WEST COAST.		
	Quantity (excluding Shell Fish).	Value (excluding Shell Fish).	Total Value (including Shell Fish).	Quantity (excluding Shell Fish).	Value (excluding Shell Fish).	Total Value (including Shell Fish).	Quantity (excluding Shell Fish).	Value (excluding Shell Fish).	Total Value (including Shell Fish).
1886 - - -	<i>Cwts.</i> 5,321,656	£. 3,148,088	£. 3,357,311	<i>Cwts.</i> 871,041	£. 407,170	£. 458,492	<i>Cwts.</i> 219,736	£. 132,821	£. 141,272
1887 - - -	5,157,678	3,216,655	3,472,477	642,914	404,010	463,190	228,889	158,293	167,792
1888 - - -	5,280,350	3,188,896	3,390,760	605,808	429,514	483,625	481,914	329,603	338,572
1889 - - -	5,223,635	2,918,239	3,127,201	652,471	503,919	565,254	588,458	440,231	476,475
1890 - - -	4,719,237	3,189,924	3,434,495	586,501	516,569	589,911	794,892	662,059	718,206
1891 - - -	4,670,646	3,445,639	3,708,847	595,705	489,016	558,254	693,725	556,863	608,471
1892 - - -	5,105,814	3,546,422	3,769,627	599,749	498,818	581,663	780,136	583,465	631,982

TABLE No. 2.

STATEMENT in Detail showing the TOTAL QUANTITY and VALUE of FISH returned as Landed on the
1886 to 1892, both inclusive, distinguishing

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1886.	1887.	1888.
	QUANTITY.									
	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>£.</i>	<i>£.</i>	<i>£.</i>
Brill - - - - -	—	—	—	—	15,408	16,571	17,740	—	—	—
Soles - - - - -	98,078	86,316	72,822	74,143	72,129	82,688	72,821	427,482	389,414	379,882
Turbot - - - - -	59,880	62,166	55,041	52,576	51,879	56,875	62,630	182,665	184,662	171,967
Prime Fish not separately distinguished - - -	* 270,014	118,850	112,415	85,982	46,771	28,754	50,655	269,089	268,674	216,966
TOTAL Prime Fish	527,942	264,322	240,978	162,701	186,182	194,888	202,846	979,206	942,750	868,215
Cod - - - - -	248,197	256,155	245,497	201,405	262,274	280,511	277,646	192,710	172,952	164,618
Haddock - - - - -	* 1,242,225	1,545,604	1,528,268	1,576,954	1,585,292	1,740,548	1,902,831	442,148	545,846	601,272
Hake - - - - -	—	—	—	—	—	129,945	195,268	—	—	—
Halibut - - - - -	—	—	—	—	95,205	81,228	84,871	—	—	—
Herrings - - - - -	1,972,687	1,606,140	1,722,962	1,922,268	1,321,560	1,206,457	1,580,890	469,266	441,792	426,820
Ling - - - - -	57,870	75,015	66,786	94,650	96,222	92,551	104,716	23,449	48,102	47,126
Mackerel - - - - -	265,290	290,630	227,798	222,918	509,420	262,487	252,412	177,744	166,009	249,269
Pilchards - - - - -	252,224	66,625	154,216	107,974	60,994	96,915	82,297	42,487	21,279	40,271
Plaice - - - - -	—	—	692,142	594,207	622,577	711,222	696,227	—	—	614,700
Sprats - - - - -	142,218	118,040	82,287	62,968	98,669	115,702	25,962	12,850	12,698	8,966
Fish not separately distinguished, except Shell Fish - - -	1,594,520	1,807,940	1,258,918	1,205,429	1,150,822	854,512	860,522	1,222,119	1,426,820	867,426
TOTAL - - -	6,412,422	6,029,481	6,242,072	6,464,564	6,100,620	5,966,076	6,485,699	2,682,079	2,772,958	2,942,012
Shell Fish :	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>			
Crabs - - - - -	2,962,259	4,080,627	4,749,655	5,082,506	4,207,641	4,611,570	4,520,725	29,262	49,262	49,274
Lobsters - - - - -	422,097	517,706	469,551	719,549	922,012	720,298	858,252	19,012	22,656	20,872
Oysters - - - - -	45,554,000	52,577,000	29,220,000	26,727,000	47,564,000	44,065,000	26,822,000	125,056	162,255	97,704
Other Shell Fish -	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>	<i>Cwts.</i>			
	229,009	242,720	296,508	460,298	506,220	522,422	514,159	75,568	87,727	96,992
TOTAL - - -	—	—	—	—	—	—	—	262,996	324,501	264,944
TOTAL Value of Fish Landed - - -	—	—	—	—	—	—	—	2,957,075	4,102,459	4,212,257

* Error in collection, 1886.

TABLE No. 2.

English and Welsh Coasts, together with the AVERAGE PRICE of the same, in each of the Years from the different kinds of Fish.

1889.	1890.	1891.	1892.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
VALUE.				AVERAGE PRICE.						
£.	£.	£.	£.	Per Cwt. £. s. d.	Per Cwt. £. s. d.	Per Cwt. £. s. d.	Per Cwt. £. s. d.	Per Cwt. £. s. d.	Per Cwt. £. s. d.	Per Cwt. £. s. d.
—	36,928	39,906	45,537	—	—	—	—	2 7 11½	2 8 2	2 11 4
431,269	458,331	517,146	499,453	4 7 2	4 11 8½	5 4 7½	5 16 4	6 7 1	6 5 1	6 17 2
180,841	189,895	209,008	228,569	3 1 —½	3 18 5½	3 2 5½	3 7 6	3 13 2½	3 13 6	3 13 —
126,924	150,835	105,514	127,090	2 19 11½	3 3 7½	2 15 10½	3 10 6½	3 4 6	2 14 5½	2 10 2½
739,034	825,989	871,571	900,689	1 17 1	3 11 4	3 12 —½	4 10 3½	4 9 9½	4 9 5½	4 8 4½
197,987	252,019	248,305	260,877	— 15 6½	— 13 6	— 13 4½	— 13 1½	— 13 10½	— 13 9½	— 13 9½
646,328	762,154	884,135	962,186	— 7 1½	— 7 —½	— 7 9½	— 8 2½	— 9 7½	— 10 2	— 10 1½
—	—	82,854	118,412	—	—	—	—	—	— 11 10	— 12 1½
—	143,075	176,719	164,313	—	—	—	—	1 10 —½	2 3 6	1 18 10½
469,357	475,840	502,481	424,880	— 4 9	— 5 6	— 5 7½	— 4 10½	— 7 1½	— 8 4½	— 5 6
68,298	68,521	64,032	72,522	— 13 3½	— 12 10	— 14 1½	— 14 5½	— 14 2½	— 13 8½	— 14 —½
229,505	392,321	361,684	328,657	— 13 4½	— 11 5½	— 15 2½	— 13 9	— 15 5½	— 19 7½	— 18 4
32,865	17,791	25,461	26,278	— 2 5	— 6 5	— 5 2½	— 6 1	— 5 9½	— 5 1½	— 6 3½
536,921	599,787	670,316	711,279	—	—	— 17 7½	— 18 —½	— 19 3½	— 18 10½	1 — 5½
11,010	15,015	12,824	8,123	— 1 10½	— 2 1½	— 2 —½	— 3 6	— 3 —½	— 2 2½	— 4 6½
931,084	804,110	589,626	628,539	— 16 8½	— 15 9½	— 13 9½	— 14 3½	— 13 11½	— 13 9½	— 14 10
3,862,389	4,368,552	4,491,018	4,622,705	— 11 6	— 12 6½	— 12 5½	— 11 11½	— 14 3½	— 15 —½	— 14 3½
53,645	56,906	52,311	59,069	1 7 6	1 4 5½	1 — 9½	1 1 1½	1 3 7½	1 2 8½	1 6 1½
30,212	45,127	24,444	38,669	4 4 1½	4 11 4½	4 8 10½	4 4 3	4 17 10½	4 14 4	4 10 1½
103,837	145,208	142,041	113,884	— 5 11	— 6 1½	— 6 8½	— 5 7½	— 6 1½	— 6 5½	— 6 2
118,747	126,919	180,758	142,945	Per Cwt. — 5 2½	Per Cwt. — 5 1½	Per Cwt. — 4 10½	Per Cwt. — 5 2	Per Cwt. — 5 —½	Per Cwt. — 5 7½	Per Cwt. — 5 6½
306,541	374,080	379,554	354,567	—	—	—	—	—	—	—
4,168,930	4,742,612	4,870,572	4,983,272	—	—	—	—	—	—	—

TABLE, No. 3.

STATEMENT showing Number and approximate TONNAGE of VESSELS of the FIRST and 31st December in each Year from

YEAR.	ENGLAND AND WALES.								SCOTLAND.							
	FIRST CLASS.						SECOND CLASS.		FIRST CLASS.						SECOND CLASS.	
	Steam.		Sailing.		TOTAL.				Steam.		Sailing.		TOTAL.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
1871 - -	-	-	-	-	2,582	90,224	9,618	40,693	-	-	-	-	1,988	23,404	13,050	64,309
1872 - -	-	-	-	-	2,778	100,332	9,358	39,076	-	-	-	-	2,120	25,924	12,510	61,992
1873 - -	-	-	-	-	2,861	104,642	9,165	39,390	-	-	-	-	2,293	28,794	11,845	58,011
1874 - -	-	-	-	-	2,984	110,500	9,054	38,670	-	-	-	-	2,407	40,629	11,167	54,124
1875 - -	-	-	-	-	2,979	111,784	8,870	38,208	-	-	-	-	2,582	43,863	10,286	50,206
1876 - -	-	-	-	-	3,142	121,445	8,777	37,938	-	-	-	-	2,782	47,743	9,888	47,762
1877 - -	-	-	-	-	3,425	137,768	7,825	36,486	-	-	-	-	2,940	51,039	9,326	45,742
1878 - -	-	-	-	-	3,637	149,343	6,279	33,790	-	-	-	-	3,122	55,190	8,258	41,338
1879 - -	-	-	-	-	3,767	155,941	6,174	34,011	-	-	-	-	4,191	58,554	7,840	39,419
1880 - -	-	-	-	-	3,840	161,450	6,070	33,640	-	-	-	-	4,360	62,135	8,358	40,792
1881 - -	-	-	-	-	3,870	162,417	5,991	33,623	-	-	-	-	3,765	66,285	8,570	40,943
1882 - -	-	-	-	-	3,931	170,367	5,956	33,718	-	-	-	-	3,966	72,398	8,797	40,686
1883 - -	181	5,575	3,562	166,255	3,743	161,830	4,881	29,710	40	987	3,984	75,392	4,024	76,379	8,808	41,176
1884 - -	224	7,507	3,616	161,654	3,840	169,161	4,579	29,695	55	1,507	4,346	82,539	4,400	84,046	8,377	38,968
1885 - -	251	8,640	3,789	175,064	4,040	183,694	4,592	30,070	56	1,407	4,406	85,563	4,462	86,970	8,240	37,172
1886 - -	275	9,911	3,736	179,464	4,011	189,375	4,289	28,622	59	1,670	4,141	81,525	4,300	83,195	6,930	30,361
1887 - -	275	10,127	3,739	180,337	4,014	190,464	4,239	27,174	55	1,336	4,046	80,486	4,100	81,822	6,782	29,803
1888 - -	294	11,576	3,688	177,717	3,982	189,292	4,308	26,752	62	1,547	3,948	79,109	4,010	80,656	6,725	29,060
1889 - -	295	12,580	3,633	175,144	3,928	187,724	4,222	26,047	66	1,747	3,843	77,829	3,909	79,576	6,716	27,982
1890 - -	338	15,206	3,541	168,704	3,879	183,910	4,051	24,423	79	2,287	3,718	75,815	3,797	78,102	6,711	27,640
1891 - -	459	21,993	3,414	161,428	3,873	183,421	4,075	23,948	89	2,779	3,616	74,754	3,706	77,533	6,582	26,328
1892 - -	512	24,540	3,351	158,391	3,863	182,931	4,099	23,524	110	3,657	3,548	74,983	3,658	78,640	6,759	26,662

TABLE, No. 3.

SECOND CLASSES respectively, Registered under the SEA FISHERIES ACT, 1868, on the 1871 to 1892, both inclusive.

IRELAND.								UNITED KINGDOM.							
FIRST CLASS.						SECOND CLASS.		FIRST CLASS.						SECOND CLASS.	
Steam.		Sailing.		TOTAL.				Steam.		Sailing.		TOTAL.			
No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
-	-	-	-	366	8,732	3,658	12,340	-	-	-	-	4,926	132,360	26,226	117,242
-	-	-	-	386	9,121	3,589	12,324	-	-	-	-	5,284	146,387	25,452	113,892
-	-	-	-	366	8,703	3,183	10,999	-	-	-	-	5,510	152,139	24,143	108,400
-	-	-	-	377	8,912	2,909	11,117	-	-	-	-	5,718	160,041	23,130	103,911
-	-	-	-	373	8,794	2,777	9,707	-	-	-	-	5,934	164,441	21,933	98,920
-	-	-	-	393	9,364	2,802	9,718	-	-	-	-	6,317	173,552	21,467	95,418
-	-	-	-	405	9,861	2,817	9,815	-	-	-	-	6,770	192,668	19,968	92,043
-	-	-	-	424	10,555	2,921	12,277	-	-	-	-	7,193	215,088	17,468	88,405
-	-	-	-	444	10,993	3,114	14,033	-	-	-	-	8,402	225,488	17,128	87,463
-	-	-	-	459	11,308	3,496	15,204	-	-	-	-	8,659	234,893	17,924	89,636
-	-	-	-	473	11,713	3,529	15,465	-	-	-	-	8,108	240,415	18,090	90,080
-	-	-	-	500	12,213	3,597	12,355	-	-	-	-	8,397	254,978	18,350	86,759
4	92	512	12,450	516	12,542	3,675	12,578	225	6,654	8,058	244,097	8,283	250,751	17,364	83,464
4	46	524	12,828	528	12,874	3,703	12,770	283	9,060	8,485	257,021	8,768	266,081	16,659	81,453
5	68	532	13,041	537	13,109	3,825	13,294	312	10,115	8,727	273,668	9,039	283,773	16,657	80,536
7	86	460	11,672	467	11,758	3,153	11,012	241	11,667	8,337	272,661	8,678	284,328	14,272	69,985
8	123	449	11,579	457	11,702	2,983	10,287	238	11,586	8,223	272,402	8,571	283,988	14,004	67,364
5	88	451	11,901	456	11,889	2,959	10,190	261	12,210	8,087	268,627	8,448	281,527	13,992	65,992
5	88	448	11,824	453	11,922	2,941	10,039	266	14,415	7,924	264,807	8,290	279,222	12,878	64,068
6	112	422	11,457	428	11,569	2,900	9,903	423	17,606	7,691	255,976	8,114	273,581	13,662	61,966
6	111	425	11,621	441	11,742	2,899	9,744	584	24,883	7,465	247,812	8,019	272,696	12,556	59,920
5	74	420	11,294	425	11,368	2,948	9,829	627	28,271	7,319	244,668	7,946	272,929	12,806	60,015

TABLE No. 4.

MINIMUM SIZES of SEA FISH (excluding SHELL FISH).

FISH.	Proposed by Sea Fisheries Protection Association.	Old English law (1. Geo. I, stat. 2, c. 18).	FRANCE.		DENMARK.		BELGIUM.	PRUSSIA.	HOLLAND.
	Total length.	From eye to end of tail.	From eye to root of tail.	Would equal a total length of about	From nose to root of tail.	Would equal a total length of about	Total length.	Extreme length.	Length.
	Inches.	Inches.		Inches.		Inches.			
Turbot - - - -	12	16	—	—	8 tomme — 8-2 inches -	9½	25 c.m. — 9-8 inches -	—	—
Brill - - - -	12	14	—	—	—	—	25 c.m. — 9-8 inches -	—	—
Plaice - - - -	10	8	10 c.m. — 3-9 inches -	5½	8 tomme — 8-2 inches -	9½	18 c.m. — 7-1 inches -	15 c.m. —* 5-9 inches -	—
Sole - - - -	10	8	10 c.m. — 3-9 inches -	5½	—	—	18 c.m. — 7-1 inches -	—	—
Lemon Sole - - -	11	(? As "Sole").	—	—	—	—	—	—	—
Flounder - - - -	—	7	10 c.m. — 3-9 inches -	5½	6 tomme — 6-2 inches -	7	—	15 c.m. — 5-9 inches -	8 c.m. —† 3-1 inches.
Dab - - - -	—	8	—	—	6 tomme — 6-2 inches -	7	18 c.m. — 7-1 inches -	—	—
Whiting - - - -	—	6	—	—	8 tomme — 8-2 inches -	9½	18 c.m. — 7-1 inches -	—	—
Cod - - - -	—	12	—	—	8 tomme — 8-2 inches -	9½	25 c.m. — 9-8 inches -	—	—
Bass - - - -	—	12	—	—	—	—	—	—	—
Mullet - - - -	—	12	14 c.m. — 5½ inches -	6½	—	—	—	—	—
Bream - - - -	—	—	14 c.m. — 5½ inches -	6½	8 tomme — 8-2 inches -	9½	—	—	—
Shad - - - -	—	—	14 c.m. — 5½ inches -	6½	—	—	—	—	—
Sturgeon - - - -	—	—	14 c.m. — 5½ inches -	7	—	—	—	100 c.m. — 39-37 inches -	—
Ray - - - -	—	—	—	—	—	—	25 c.m. — 9-8 inches -	—	—
Halibut - - - -	—	—	—	—	—	—	25 c.m. — 9-8 inches -	—	—
Haddock - - - -	—	—	—	—	—	—	25 c.m. — 9-8 inches -	—	—
Herring - - - -	—	—	—	—	—	—	—	—	10 c.m. — 3-9 inches.
Smelt - - - -	—	—	—	—	—	—	—	—	7 c.m. — 2½ inches.

* In some provinces the measurement for plaice is 18 c.m. = 7-1 inches. In certain Hanse towns the Prussian measurements are in force, the size for plaice being either 16 or 18 c.m.
† In the province of Zealand it is illegal for a boat to have flounders on board measuring less than 18 c.m. = 7-1 inches.

TABLE No. 5.

MINIMUM SIZES of CRUSTACEANS.

N A M E.	UNITED KINGDOM.	FRANCE.	DENMARK.	PORTUGAL.	NORWAY AND SWEDEN.
Crab - - - -	4½ inches across the broadest part of the back.	—	—	—	—
Lobster - - - -	8 inches from beak to end of tail spread flat.	20 c.m. = 7-9 inches, from eye to root of tail.	7 inches from beak to root of fin.	20 c.m. = 7-9 inches, from eye to root of tail.	59 m.m. = 2½ inches, in breadth or diameter.
Crayfish - - - -	—	20 c.m. = 7-9 inches, from eye to root of tail.	—	20 c.m. = 7-9 inches, from eye to root of tail.	—
Shrimps - - - -	—	3 c.m. = 1-1 inches, from eye to root of tail.	—	—	—

TABLE No. 6.

ABSTRACT of the BYE-LAWS in Force in SEA FISHERIES DISTRICTS, 1st May 1893.

BYE-LAW OR REGULATION.			District in which the same are in Force.
Trawling	- - - - -	Prohibited - - - - -	Northumberland. North Eastern. Tees.
	Steam trawling	Prohibited - - - - -	Cornwall.
	Exceptions - -	Trawling for scientific purposes - - -	Northumberland. North Eastern. Tees.
	Ditto - -	For shrimps and prawns in Humber between 1st March and 31st October: beam not to exceed 20 feet, and net to be without pockets, and raised not less than once in every hour.	North Eastern.
	Ditto - -	From row or sailing boats in a limited area off Bridlington between 1st February and 30th September: beam not to exceed 22 feet, and net to be raised not less than once in every half-hour.	- ditto.
	Shrimp trawls	Beam not to exceed 14 feet in length - -	Southampton.
	Length of beam	Not to exceed 30 feet (unless used exclusively for shrimps and prawns).	Lancashire.
	Drift - -	For herrings or pilchards: use forbidden between sunrise and sunset.	Southampton.
	Haffle or offal	Prohibited in Tees estuary - - - -	North Eastern. Tees.
	Kip, or whitebait	Must not exceed four feet in diameter - -	Southampton.
Nets	Sparling nets -	Not to be used in Tees estuary between 21st March and 21st July.	North Eastern.
	Ditto - -	Not to be used in Tees estuary between 21st March and 21st June.	Tees.
	Ditto - -	Not to be used between 1st May and 31st October.	Western. Lancashire.
	Ditto - -	Not to be used between 1st April and 31st October.	Kent.
	Ditto - -	Not to be made of material thicker than cotton twine of thirties yarn, twisted nine ply.	North Eastern. Tees.
	Sprat - -	Not to be used between 1st March and 1st October.	Southampton.
	Stake - -	Regulations as to use and position - - -	Western. Lancashire. Kent.
	Trammel, or fixed stop nets.	Not to be left unattended between 1st June and 1st October, or for more than one hour without lifting or cleaning.	Southampton.
	Trawl, shank, or otter.	Prohibited in a limited area - - - -	Lancashire.
	Ditto - ditto -	Prohibited - - - - -	Kent.
	All nets - -	Prohibited, except trawl, shrimp-trawl, sprat, trammel, splash, stop, eel, drift, kip, or whitebait nets lawfully used.	Southampton.
	Devices - -	Inside funnels, or other devices, save ordinary side pockets, prohibited.	- ditto.
	Ditto - -	Nets so placed or covered as to practically diminish mesh, prohibited.	Southampton. Wes- tern. Lancashire. Kent.
Mesh	Eel seines - -	Must not have less than 72 rows of knots to the yard (= $\frac{1}{2}$ inch).	Southampton.
	Seine, draft, drift, or stake nets.	For mackerel or herring: mesh not less than 1 inch (4 inches round).	Western. Lancashire. Kent.
	Seine, draft, or drift nets.	For sparling: mesh not less than $\frac{3}{4}$ inch, or 3 inches round.	Western.
	Shrimp, or prawn nets.	Mesh not to be less than $\frac{3}{8}$ inch or $1\frac{1}{4}$ inch round.	Western. Lancashire. Kent.
	Ditto - ditto -	Circumference not to be less than 160 meshes	Western. Lancashire.
	Sparling - -	Nets in Tees estuary: not less than $\frac{4}{8}$ inch -	North Eastern. Tees.
	Sparling nets -	Mesh not less than $\frac{3}{4}$ inch, or 3 inches round -	Western.
	Splash, or stop nets	Mesh not less than $1\frac{1}{4}$ inch - - - -	Southampton.
	Trammel nets -	Mesh not less than $1\frac{1}{4}$ inch - - - -	- ditto.
	Trawl nets - -	Mesh not less than 1 inch - - - -	- ditto.
	Trawl, shank, bow, hand, or hose nets.	Circumference not to be less than 100 meshes	Western. Lancashire.
	Nets for sea fish -	Except as otherwise provided, mesh not less than $1\frac{1}{4}$ inch or 6 inches round.	Western.
	Ditto - -	Except as otherwise provided, mesh not less than $1\frac{1}{4}$ inch or 7 inches round.	Lancashire. Kent.
	Drift nets - -	Not to be deeper than 200 meshes - - -	Western.
	Ditto - -	Not to have more than 36 rows of knots to the yard.	Southampton.
	Artifices to diminish mesh.	Prohibited - - - - -	Southampton. Wes- tern. Lancashire. Kent.

TABLE No. 6.—ABSTRACT of the Bye-Laws in Force in Sea Fisheries Districts, 1st May 1893—*continued*.

BYE-LAWS OR REGULATIONS.			District in which the same are in Force.
Refuse, deposit of; liquid or solid.	- - - -	Prohibited - - - -	Colchester. Kent and Essex. South- ampton. Western. Lancashire. Kent.
Scientific Purposes	- - - -	Trawling permitted, provided written authority is obtained from Committee.	Northumberland. North Eastern. Tees.
FISH.			
Eels	Seines - - -	Not to have more than 72 rows of knots to a yard ($\frac{1}{4}$ inch mesh).	Southampton.
	Instruments - -	Use of spade, shovel, scoop, bucket, or any like instrument prohibited.	- ditto.
Herrings - - -	Drift nets - -	Prohibited between sunrise and sunset - -	- ditto.
Herrings and mackerel	Seine, draft, drift, or stake nets.	Mesh to be not less than 1 inch (4 inches round).	Western. Lancashire. Kent.
Pilchards - - -	Stake nets - -	Regulations as to use and position of - -	- ditto ditto ditto.
Sparling - - -	Drift nets - -	Prohibited between sunrise and sunset - -	Southampton.
	Close season - -	Nets not to be used between 21st March and 21st July in Tees estuary.	North Eastern.
	Ditto - - -	Nets not to be used between 21st March and 21st June in Tees estuary.	Tees.
	Ditto - - -	Nets not to be used between 1st May and 31st October.	Western. Lancashire.
	Ditto - - -	Nets not to be used between 1st April and 31st October.	Kent.
	Mesh of nets - -	Not to be less than $\frac{1}{4}$ inch in Tees estuary -	North Eastern. Tees.
	Material of nets -	Not to be thicker than cotton twine of thirties yarn twisted nine ply.	- ditto - ditto.
Sprats - - -	- - - -	Nets not to be used between 1st March and 1st October.	Southampton.
Crabs - - -	Sale for bait - -	So much of Section 8 of Fisheries (oyster, crab, and lobster) Act, 1877, as permits the sale of edible crabs for bait, shall not apply to district.	North Eastern.
Shrimps and prawns	Trawl - - -	Beam not to exceed 14 feet - - - -	Southampton.
	Ditto - - -	Beam not to exceed 20 feet; net to be without pockets, and raised not less than once in every hour, in Humber, 1st March to 31st October.	North Eastern.
	Mesh - - -	Not to be less than $\frac{1}{4}$ inch - - - -	Western. Lancashire. Kent.
	Net - - -	Not to have less circumference than 160 meshes.	Western. Lancashire.
Cockles - - -	- - - -	To be taken by hand or with a rake not exceeding 12 inches in width, and having teeth not less than $\frac{1}{4}$ inch apart.	Western. Lancashire. Kent.
Mussels - - -	- - - -	To be taken by hand or with a rake not exceeding 3 feet in width, and used only when bed is covered with water.	- ditto ditto ditto.
	Close season - -	Rake prohibited May, June, July, and August, and in part of District between 1st March and 31st October.	Western.
	Ditto - - -	Rake prohibited in May, June, and July -	Lancashire. Kent.
	Ditto - - -	Use of any instrument prohibited in May, June, July, and August.	Dee.
	Exceptions - -	Mussels may be removed in May for stocking or breeding purposes.	Western. Lancashire. Kent.
Oysters - - -	Close season - -	30th April to 1st September - - - -	Southampton.
	Ditto - - -	Not to be taken before 1st January 1896 -	Western.
	Dredges - - -	To have rings not less than $1\frac{1}{4}$ inches in diameter, inside the ring.	Southampton.

APPENDIX, No. 3.

STATEMENT handed in by Mr. S. Barber, 18 May 1893.

1. THE ACT OF 1877.—(OYSTER, CRAB, LOBSTER ACT.)—This Act was the result of the sitting of a Select Committee appointed by the House of Commons in 1876, to consider the best means of improving and replenishing our Native Oyster Fisheries. The general idea was a close time in the summer. At this time, however, persons were engaged in importing oysters from abroad, and replanting them on English private beds for sale. The question of course, arose, as to what would be their position under a close time, as they had imported them for sale during the summer more particularly. A Mr. Birch, who was the manager of what was then the Conway Oyster Company, therefore gave evidence before the Select Committee (Evidence, pages 134 and 135), representing that under a close time their trade would be destroyed, and as the result an exempting clause for foreign oysters was inserted in the Act, which stated, that a person should not be considered guilty of an offence under it, if he could prove to the court that the oysters were "taken within the waters of some foreign State." This exemption, therefore, has been the charter of this trade, which under it has grown continuously, and now assumes very considerable dimensions, employing many thousands of persons in their handling and selling. Things went on all right for 14 years, till the autumn of 1891, when the Fishmongers' Company suddenly found a mare's nest, and discovered that it was all wrong. They arranged with a member of their company, who was also an oyster merchant, what they called a "friendly case" at the Mansion House. No adequate defence was offered, and no counsel employed, and the company obtained a verdict and a nominal fine of one penny. Upon this a meeting of those engaged in the trade was called in London, and a guarantee fund subscribed, and a committee appointed to defend themselves against further attacks from the company. Meetings were also held by the London Fish Trade Association, who passed a resolution condemning the action of the company; by the conference of the National Sea Fisheries Protection Association who also passed similar resolutions in 1892; and also the Kent and Essex Sea Fisheries Committee who did likewise. In spite of all these representations, however, from those who had knowledge of the subject, the Fishmongers' Company commenced prosecutions, selecting a firm in London having oyster layings at Stangate Creek in the Medway, and at Flushing by Falmouth. The case was heard at the Mansion House, and following the precedent of the "friendly case" a verdict was given for the company. The trade appealed to the High Court, and coming before Baron Pollock and Justice Hawkins, the magistrate's decision was quashed, and a judgment given in favour of the trade on all points in the case. The trade, of course, considered the matter settled, and were much surprised to find that the Fishmongers' Company, disregarding this high judgment, had recommenced prosecuting the same firm for a similar offence. This last case was heard at the Mansion House on 3rd March last, by Sir H. Knight, whose judgment in my opinion contains the common sense of the matter. He considered that the trade was perfectly justified in selling those oysters as French oysters, but not as English, and this is just what the oyster planters require; because if some of the retailers sell them as English at higher prices than are legitimately warranted, it limits the trade for them unfairly, and causes loss to the planters of them; whereas if sold at a fair profit on their merit, the trade would easily be quadrupled. The whole-sale trade has always carried its business on perfectly fairly in this respect, and it would be glad to see the whole of the retailers compelled to do the same.

The Fishmongers' Company have, however, appealed to the High Court again, against Sir H. Knight's decision, and this is now pending. The trade of course considers this as harassing persecution.

2. There are three kinds of oysters which are imported for replanting, French, American, and Portuguese. They are imported for direct sale during the winter, and laid down here for continuing the sale during the summer (when natives are barred by the Statute), and onwards during the autumn. These oysters are supposed to improve in fatness and general condition by their transplantation, and the planter looks for his profit to the higher price he gets in consequence. He sells a better article for more money. His risks are that the oysters may not "fish," and that if his sale is in consequence slow, he may be overtaken by frost, which is likely to destroy all that he has left, especially the French and Portuguese. Two winters ago the trade unfortunately lost all the oysters they had of these kinds by the frost, and it will take them seven or eight years of fair luck (which is a considerable element in the business) to get back the money they lost. The risk from frost is extreme.

3. *Spawning*.—American oysters have never been seen in spawn in this country. Whether they spawn in the same way as English oysters I don't know, but no result in the shape of young oysters has ever been found from them.

The same remark applies to Portuguese, with I believe the exception of the year 1887, when some of them spawned in the Medway, but it was so exceptional an occurrence, that I heard that the fishermen said that they spawned in honour of the Queen's Jubilee, it being Jubilee Year.

French oysters spawn more or less according to the season, but so far as I know, no result in the shape of young oysters has come from it. Considering that from 30,000,000 to 40,000,000 of them are laid at Whitstable alone during every summer as an average during the last 15 years, one would think that if it were possible for them to do so, they would have managed it by this time. The fact remains that these French oysters have to be imported year after year from France, at great expense and risk. If the Fishmongers' Company, instead of confining their energies to prosecuting people, would find out the way to manage this business, and devote some of their enormous resources to this end, they would deserve the thanks of the trade instead of their resentment. The fact, however, remains, that many people who have tried it have lost very large sums of money in the attempt, notably The Marquis of Exeter's Company at Hayling, and the Herne Bay Company.

There are not many French oysters laid outside the native oyster district; a few at Falmouth, and Emsworth, and Bosham.

4. With respect to the question of their fitness for food:—

1. The Act of 1877 was passed for the purpose of trying to replenish our fisheries, and the question of fitness or non-fitness for food had nothing to do with it.

2. Oysters are not sold during the close time if they contain many oysters in spawn. It works in this way: If I have two lots of French oysters on my layings, I go and look at them when the summer comes on, and I open perhaps 20 or 25 of the first lot. If I find only one or two or three of them in spawn I go on selling them. If the next lot has anything like a proportion of spawnny ones, say 15 per cent., I leave them alone, not out of any consideration for the public, but because my customers would grumble loudly at the waste, having to throw out so many, and diminishing their profits.

3. All thin oysters, and all oysters in spawn, are thrown aside when opened for a customer. A dealer must of necessity sell a fairly good and well-fished oyster, or he would lose his trade. He must keep his oysters up to a certain standard of quality, so that the public does not get any oysters in spawn.

4. If any man ate a bushel of them, they would not make the least difference to him if his stomach was large enough to hold them comfortably, and he did not eat the shells. People, at the same time, eat every other fish in spawn. The Fishmongers' Company would probably refuse scallops (the oyster's first cousin) unless they were in spawn, and would probably send them back to the fishmonger who supplied them as not being good. Who wants a bloater without a roe? and the trade in cod's roe, caviare, and such things is a large trade. Considering that at least 500,000,000 of foreign oysters have been eaten during the close times of the last 15 years, and no ill result come from it, I think there is no need to trouble ourselves about oysters in spawn at all.

Close times.—I would merely point out that as regards natives, a close time has been in force for 15 years, and that natives are now 28s. 100 wholesale, and 5s. dozen retail, with every probability of being still dearer. The general opinion, so far as I have gathered it, is that this scarcity is the result of the close time, as it causes the grounds to become foul and dirty, &c., with mud and rotting weeds, and gives every opportunity to mussels, five fingers, and every oyster's enemy. Close times are valueless unless proper and efficient means are taken to keep the ground clean all the time. They have been failures wherever they have been tried in my opinion, and have resulted generally in the destruction of the fisheries operated on.

Prices.—French oysters are sold wholesale at prices from 4s. to about 6s. 100. Americans at about 2s. 6d. to 3s. 6d., and Portuguese at 1s. 6d. to 2s. 6d. or 3s. 100, and form a very cheap food for the money.

Results of a close time :—

1. The risk of frost would effectually stop all the smaller planters, because it would be impossible for them to pay 12 months' expenses, if their sale were confined and restricted to August, September, October, November, with a risky chance of December. Jack Frost is a large buyer but a detestably bad payer.

2. The large planters such as the Whitstable Company, who have grounds on the south coast, where they have a fair chance of wintering them, would continue the trade but would curtail their imports by the amount of their summer sale. Thus, if a firm sold 2,000,000 during the close time, and 4,000,000 the rest of the year, they would import 4,000,000 instead of 6,000,000, and the price would naturally be increased.

3. The stoppage of foreign oysters would at once raise the price of natives, which are now from five to 10 times the price of foreign ones. There is no reason, why, without competition, natives should not become 1s. each.

4. The trade would pass from English planters into the hands of the Frenchmen and Dutchmen, who would supply the market direct, unless the close-time were made absolute, and making it absolute would interfere with our free trade system.

Oysters relaid in Holland and the north of France could be delivered in London as easily as from the majority of English grounds, and more cheaply than from distant ones such as Falmouth.

In conclusion I fail to see why 20,000 or more men should be thrown out of employment for three or four months every year for such a small consideration.

APPENDIX, No. 4.

PAPER handed in by Mr. J. Wrench Towse, 18 May 1893.

STATEMENT submitted by the FISHMONGERS' COMPANY to the SELECT COMMITTEE.

In re The Fisheries (Oyster, Crab, and Lobster) Act 1877.IN *re* OYSTERS.

REFERRING to the Report of the National Sea Fisheries Protection Association for the year 1889, the General Committee stated with respect to oysters, that there appeared to be no effort exerted in the United Kingdom towards the systematic cultivation of indigenous oysters. The owners of suitable grounds were apparently content to confine their operations to the importation and planting of foreign oysters, large quantities of these inferior descriptions being brought at great expense from France, Spain, Portugal, and America. The Committee expressed a strong opinion that by careful nursing of the few oysters which remained upon the natural oyster beds they might be made the means of restoring the prestige of the famous English oyster, and considered that the Government should encourage the cultivation of indigenous oysters throughout the country by granting power to owners of suitable grounds to more effectually protect their operations.

In consequence of the above Report the subject was brought before the Conference of the National Sea Fisheries Protection Association held at the Fishmongers' Hall on the 3rd, 4th, and 5th of April 1889, by Mr. W. H. Williamson, who stated that oysters, so far as our shores were concerned, were nearly extinct already, and it was probable that there would be an early extinction of oysters around the coasts of the United Kingdom, and if merchants had to rely for their stocks upon the supplies they got round the coast they would have practically none at all, and the result was that the trade had to go to foreign shores to stock the fisheries to enable the public to be supplied with oysters. He further stated that fishermen had been allowed to practically exhaust the oyster fisheries through over-dredging, and hence the extinction of our stocks.

Mr. Belleruche stated he was of opinion that oyster culture in the south of England might be carried on under most promising conditions, because it was affected by the Gulf Stream, and there was a mixture of soft and fresh water which was necessary for the oyster.

It was unanimously resolved—

"That having regard to the existing scarcity and the possible early extinction of oysters around the United Kingdom, this conference is of opinion that the subject of their protection and cultivation demands the immediate interference of Her Majesty's Government, and further, that the Committee of the National Sea Fisheries Protection Association be requested to examine fully into the whole question with the view of securing such practical knowledge and information as will lead to the re-establishment of our already exhausted parent fisheries."

It having been reported to the Fishmongers' Company that very large quantities of French, Portuguese, Dutch, Spanish, and American oysters were annually relaid in British waters, and taken up and sold during the English close time, the company considered that it was desirable, in the interest of the public generally and of the oyster fisheries, that steps should be taken to ascertain whether the "Fisheries (Oyster, Crab, and Lobster) Act 1877," permitted such taking and sale during the close time.

The Fishmongers' Company in July 1891 took the opinion of their solicitor, and it was afterwards decided that proceedings should be taken with a view to obtain a decision under the Act of Parliament whether such a course was legal or not.

Before instituting any proceedings the Fishmongers' Company ascertained on enquiry that at Brightlingsea, Colchester, Southend-on-Sea, and Whitstable, relaid French and Portuguese oysters spat.

The Southend Local Board on the 28th August 1891, issued a notice headed "Unseasonable Oysters," notifying that during the close season of 1892, the Board proposed to see that the provisions of the Act of 1877 were complied with in Southend.

Mr. John Reeves, Treasurer of the Whitstable Oyster Company, was of opinion that the French relaid oysters spat.

The Fishmongers' Company thereupon decided to take friendly proceedings against Mr. W. H. Williamson. A summons was applied for and granted and returnable at the Mansion House on the 30th September.

On the 10th of September 1891, the London Fish Trade Association was apprised of the proposed action, when the following resolution was passed :—

"That in the opinion of this meeting of oyster planters and merchants, held at the offices of the London Fish Trade Association, Billingsgate Market, a close season for the sale of oysters would be beneficial (a) providing that the sale of all direct supplies from foreign states could be absolutely prohibited during such close season, otherwise (b) very serious injury would accrue to the whole of the trade, planters of oysters, and merchants of the United Kingdom, and drive the existing business into the hands of foreigners."

The summons against Mr. Williamson was heard at the Mansion House on the 30th September 1891, when he admitted that he had sold the 3,000 oysters referred to in the summons, but contended that they were taken "within the waters of some foreign state," and therefore came under Exemption 1 of the 4th Section of the Act.

Judgment was given in favour of the company. The defendant paid the fine imposed, and did not apply for a case to be stated for the opinion of the High Court.

Messrs. Petrie and Musson of Liverpool (large importers of American oysters), waited upon the company at their hall on the 27th April 1892, and stated that they had obtained and taken the opinion of Sir Charles Russell, Q.C., as to the sale of American relaid oysters during the close time, and that gentleman had advised that such sale came within Exemption 1 of the Act of 1877.

On the 6th of December 1891, a meeting of London oyster merchants, summoned to consider the whole question, unanimously passed a resolution, the effect of which was that in their opinion—

“A close season for the sale of oysters would be beneficial, provided that the sale of direct supplies from foreign states could be absolutely stopped during such close season.”

At a meeting of the Kent and Essex Sea Fisheries Board on the 7th January 1892, it was, however, resolved—

“That during the summer months it would be beneficial to the fishermen and others of the Kent and Essex district to sell relaid French and other foreign oysters, and directed a letter be written to the Fishmongers' Company deprecating any further action in enforcing the late decision.”

The conference of the fishing industry held at Fishmongers' Hall on the 25th February 1892, proposed that the Act of 1877 should not be applicable to foreign oysters relaid in English waters. Reference was made to the Report of the Royal Commission of 1876, and to a letter which was received by Messrs. Musson and Co., dated 17th July 1877, from the Board of Trade, in which an opinion was given:—

“That if American oysters were placed by themselves in Cleethorpes, so that they could be identified, the exemption in that section would apply to them.”

Captain Anderson, the chairman of the Whitstable Oyster Company, stated that he was of opinion that if a French oyster were put down in English waters it would undergo exactly the same process as the native oyster in every shape and form, that is to say, as to its sickening and spitting, and that it was an undisputed fact that between the months of May and August the French oyster sickened and spat. He added that “if there is to be a close season, let it be made unconditional and absolute.”

After considerable discussion the conference resolved—

“It was not desirable that foreign oysters bedded in English waters should come under the operation of the Act, and the Fishmongers' Company should hold its hands until further consideration had been given.”

The Fishmongers' Company subsequently considered the resolutions passed, and directed the clerk to address a letter to Sir Edward Birkbeck, as president of the conference, intimating that as under the Act it was competent for any person to proceed against the person infringing the provisions of the Act, they could not abandon the notices they had issued, but were willing to take one friendly case, and not prosecute any other person, providing due diligence be used to obtain the decision of the superior court.

On the 13th day of May 1892, the Fishmongers' Company received a deputation of oyster merchants, who stated that a Bill would be introduced, through Sir Edward Birkbeck, to exempt foreign relaid oysters bedded in English waters from the operation of the Fisheries (Oyster, Crab, and Lobster) Act, 1877. The company thereupon agreed to delay taking any action against any person infringing the Act, pending the progress of the Oyster Merchants' Bill through the House. The Oyster Merchants' Bill was ordered to be printed, and on the 21st June 1892, was set down for the second reading. Sir Michael Hicks-Beach, the President of the Board of Trade, stated at a meeting of the representatives of the Sea Fisheries Committee, held at the Board of Trade on that day, that as the law at present stood, the sale of deep-sea oysters was prohibited between 15th June and 4th August, and the sale of all other oysters was prohibited between 14th May and 4th August. It seemed to him that Sir Edward Birkbeck's Bill contained rather a dangerous proposal, if the proposition, that there should be a close time for English oysters were attended to, as he was told by experts that it was practically impossible to distinguish French oysters, laid down on English beds, from English oysters by their appearance, and the result of legalising their sale might have the effect of getting rid of the close time altogether. He would rather make a close time for all. The Oyster Merchants' Bill was not proceeded with.

On the 13th of May 1892, it was stated by Captain Austin, the Chairman of the Sea Salter and Ham Fishery Company, during an interview, that practically there were no English oysters, all oysters now sold being foreign.

In consequence of the Oyster Merchants' Bill to amend the Act of 1877 not being proceeded with, the company instructed their solicitor to proceed with a further case.

Certain purchases having been made, a summons was applied for and granted against R. M. M. Robertson, trading as Hole and Dodd, Henry Eason, his manager, and Ernest John Eason, his salesman, for having sold 100 oysters on the 2nd July 1892, contrary to the statute. The summons was heard 27th July 1892, when the three defendants were convicted and fined by the Lord Mayor. The fines were paid. Defendant's counsel intimating to the Lord Mayor that he should not advise his clients to apply for a case to be stated upon the evidence taken upon this summons, he not being in a position to call any evidence with respect to it, but would consider on the hearing of one of the other summonses against his clients whether he should advise them to apply for a case for the opinion of the High Court, should a conviction ensue.

On the 4th August 1892, a further summons taken out against R. M. M. Robertson and others, trading as Hole and Dodd, was heard before Alderman Sir J. Whittaker Ellis, Bart., for selling 100 oysters on the 4th of July 1892, contrary to the statute. During the hearing of this summons reference was made to a case under the Game Act, relating to England, viz.: the case of “Guyer v. the Queen,” reported in 58 “Law Journal” Magistrates' Cases, page 81. The defendants' counsel also referred to the Report of the Select Committee of the House of Commons on Oyster Fisheries, dated 7th July 1876, together with the Minutes of Evidence upon which the Act of 1877 had been based. At the conclusion of the hearing of the summons, which occupied two days, evidence was called on behalf of the defendants to show that the oysters in question had arrived from France in February and March 1892, were relaid at Stangate Creek, River Medway, and were dredged up during the months of June and July for sale. Messrs. Hole and Dodd's manager, Mr. H. Eason, admitted in cross-examination amongst other things that he would not eat an oyster that was sick and spawning, neither would he give it to anyone else to eat. The alderman in giving his decision stated that he had carefully considered the matter, and had come to the conclusion that he must convict the defendants. The defendants' counsel subsequently applied to the alderman to state a case for the consideration of the High Court.

A case was stated and argued before Mr. Baron Pollock and Mr. Justice Hawkins on the 7th November 1892, who reserved their judgment, stating that in their opinion it was a most important question to decide.

On the 11th November the Court gave judgment, each of the learned judges reading his individual judgment.

The judgment given reversed the decision of the alderman, and it will be seen from its perusal, that Stangate Creek, from where the oysters in question were taken, was held not to be an oyster fishery within the meaning of the Act of Parliament. Baron Pollock, however, stated that in his opinion Stangate Creek, although it might become a fishery if the oyster spat had bred there, or possibly if very small oysters were brought from a foreign country and kept to nurture there, so that they could become large oysters by nurturing, it might then be said that they had become English oysters, and it seemed to him a question of degree.

The company considered it was advisable that as it was possible that various questions of fact might arise in the case against R. M. M. Robertson, trading as Hole and Dodd, and E. J. Eason, for having sold oysters which had been

been relaid at Falmouth for upwards of 18 months, and which did not arise in the case decided by the High Court, determined to proceed upon that summons.

That summons was heard before Alderman Sir Henry Knight, on the 3rd of February and the 3rd of March 1893, when evidence was tendered in support of the company's case, that French relaid oysters did spat in English waters, or in other words breed, and that that spat matured and became edible oysters. The alderman considered he was bound by the judgment of the superior court, and gave his decision in favour of the defendants.

Upon the hearing of further summons by Alderman Sir Henry Knight it was proved that Messrs. Ullmann, the defendants, had sold during the close time French relaid oysters as natives from Whitstable.

The Fishmongers' Company submit that the first Exemption under Section 4 of the Fisheries (Oyster, Crab, and Lobster) Act, 1877, 40 & 41 Vict. c. 42, should be repealed by a new Act of Parliament being passed, as the present Act, The Fisheries (Oyster, Crab, and Lobster) Act, 1877, is absolutely inoperative and useless in protecting the English oyster fisheries, as it does not prohibit the importation of foreign oysters during the close time, which the passing of that Act was intended to do, and which was its sole object under the Royal Commission of 1876.

And the Fishmongers' Company further submit that by the above-mentioned exemption remaining, a deception is and may be practised upon the public in the purchase of French relaid oysters under the belief that they are natives from Whitstable, Colchester, &c., and further, that during the close season oysters are not considered fit for consumption.

It will be seen in reference to the judgments of Mr. Baron Pollock and Mr. Justice Hawkins, that those judgments practically make the existing Act inoperative.

APPENDIX, No. 5.

PAPER handed in by the *Chairman*, 1 June 1893.

To the Honourable the Chairman, Sea Fisheries Committee, House of Commons.

"CLOSE TIME FOR OYSTERS."

49, Ospringe-road, Faversham,
20 May 1893.

Sir,

As time did not permit of me being called to give evidence on Thursday last, and the matter being of very serious importance, I venture most respectfully to submit my views on the proposed close time for oysters. I have been 35 years practically engaged in the trade in all its branches; am a member of the Whitstable Oyster Company; and at present manager of the East Kent Oyster Company, Faversham. I am strongly opposed to close time, and for following reasons:

- I. That such close time interferes with a great industry without any compensating public benefit.
- II. That, if effectual, it would tend to defect its own end.
- III. That the months proposed to make close would be insufficient for the purpose put forward by the proposers.

I.—Sufficient evidence was put before your Committee to show how great an industry is the summer oyster trade; but no possible proof can be brought to show that a close time will increase the supply of oysters. A great misapprehension arises with regard to spawning oysters; it being imagined that all, or a great majority of the oysters are in spawning condition during the months of June and July. It is an indisputable fact that in those months not more than 10 per cent. of the oysters will be found in a truly spawning condition, and even this proportion greatly depends on an early hot summer. It must be noted that the oyster is not a perfect hermaphrodite, neither is it bi-sexual, but that it changes its sex alternately; and, therefore, it may be that at any time one half of the numbers may be males, the other half females. Add to this the chances that a large number of the females may not have their ova properly impregnated, it is not illogical to argue that not more than 10 per cent. of the whole numbers, or 20 per cent. of the females are in spawn at same time. Practical acquaintance proves the proportion less. A few summers ago I had a retail shop at Margate for summer trade, and the percentage of waste from spawning oysters did not exceed 5 per cent., though I opened five, seven, and ten thousand during a week. If the waste to the retailers was greater, they would close the business themselves.

Additional proof of the above may be adduced from the results of artificial breeding in enclosed ponds; the amount of spat obtained in the most successful season being altogether out of proportion with the large number of parent oysters placed in the breeding ponds, especially when it is computed that each oyster, when perfectly impregnated, will bring forth one million of young. Granted that 10 per cent. of the oysters are in spawn, it is an insufficient reason for preventing the sale of the remaining 90 per cent.

II.—It was shown to your Committee that, if a close time was enforced, those who now plant oysters for summer trade would not do so, consequently there would be less spawning oysters on our shores than would otherwise be the case if things be allowed to remain as they are; therefore, instead of increasing the supply, a close time would tend to an opposite effect.

III.—A great deal of the case for a close time rests on the assumption that spawning oysters are unwholesome and unfit for food; presuming this is so, the case is sufficiently met by the above arguments, as only a small proportion would be found to be in such a condition; and it does not follow that these would be eaten. But I do not admit there is anything unwholesome about a spawning oyster; why should it be; all fish are in prime condition when ripe with spawn, including shell fish. A scallop, for instance, is worthless unless in full spawn, and why the lordly oyster should be placed below other and inferior molluscs I cannot comprehend.

But even if the French oysters especially are unwholesome when spawning, and that my estimate of the number of oysters spawning at one time is inaccurate, even then the proposed close time would be insufficient to prevent the sale of such unwholesome oysters, and for the reason that a larger number of these oysters will be found in spat during the month of August than any other month of the year. These oysters are generally planted during April and May, not for breeding but for fattening; the development of the spawn is checked by the journey and change of waters, so much so that, unless there is an exceptionally early spring, these oysters do not come into spawn before middle of July and August; indeed, they are frequently found in spawn through September and even till end of October. It is the rule to find them spawning late and the exception to have them spawning early. It will be found that the greater proportion of re-laid French oysters will be in spawn during the month of August, and, therefore, assuming a spawning oyster to be unwholesome, a close time till 4th August would be insufficient to prevent their sale. On the other hand it is frequently found that re-laid French oysters are in far better condition during summer than later in the season. The summer of 1892 instanced this, as during that time there was a greater proportion of well-fed (re-laid) oysters than at any other time during the season. Prices will confirm this, for the same class of oysters, taken from same stock and from same beds as those sold in summer at market prices of 5s. and 6s. per 100, so deteriorated in quality of fish that they were sold at reduced prices of 3s. 6d. and 4s. 6d. per 100.

I think I have shown conclusively that a close time for French oysters would have the effect of injuring and stopping large part of a great industry without any compensating public benefit; that it would tend to decrease the number of spawning oysters on English beds, and further, that it would be ineffectual to prevent the total sale of unwholesome oysters, if spawning oysters may be termed such.

I would beg to add that, rather than have the law in so uncertain state as at present, it would be better to abolish all close times and restrictions.

I have, &c.
(signed) William P. Coleman.

APPENDIX, No. 6.

PAPERS handed in by Mr. Peter Esslemont, 6 June 1893.

TABLE A.

TOTAL QUANTITY of HERRINGS, and COD and LING Cured in *Scotland*, from 1832 to 1892, inclusive, in Periods of Five Years, showing the Average Quantities for each Period.

PERIODS OF FIVE YEARS.	HERRINGS.		COD AND LING.	
	Number of Barrels Cured in each Period.	Average Number of Barrels.	Number of Cwts. Cured in each Period.	Average Number of Cwts.
1832 to 1837, inclusive - - -	1,960,517	392,103	369,647½	73,929
1837 " 1842 " - - -	2,662,747½	532,549	522,026½	104,405
1842 " 1847 " - - -	2,605,606½	521,121	497,876	99,575
1847 " 1852 " - - -	2,805,605½	561,121	550,925	110,185
1852 " 1857 " - - -	3,270,995	654,199	615,617½	123,123
1857 " 1862 " - - -	3,147,560	629,512	578,084½	115,616
1862 " 1867 " - - -	3,268,862½	653,772	695,135½	139,027
1867 " 1872 " - - -	3,745,899½	749,179	787,577½	157,515
1872 " 1877 " - - -	4,328,690½	865,738	896,557½	179,309
1877 " 1882 " - - -	5,615,293	1,123,058	832,677½	166,535
1882 " 1887 " - - -	7,155,089½	1,431,018	700,493½	140,098
1887 " 1892 " - - -	6,204,996½	1,240,999	792,497½	158,499
TOTAL - - -	46,771,863	- - -	7,839,115½	—
AVERAGE - - -	- - -	779,531	- - -	130,651

TABLE B.

FISHERY STATISTICS.

RETURN showing the Quantities and Values of all FISH Landed in *Scotland*, from 1889 to 1892, inclusive, distinguishing the FISH taken by NET and LINE from those taken by TRAWL.

YEARS.	HERRINGS, SPRATS, SPAR- LINGS, AND MACKEREL.			* ROUND FISH.						† FLAT FISH.					
	Net.			Line.			Trawl.			Line.			Trawl.		
	Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.
1889	3,723,540	717,088	3 10	1,456,544	520,798	7 2	155,611	75,060	9 8	97,444	45,796	9 5	68,787	79,044	22 11
1890	3,995,377	828,667	4 2	1,420,789	531,264	7 6	171,593	99,583	11 7	98,776	46,347	9 5	78,734	98,007	24 11
1891	3,546,970	926,762	5 3	1,410,464	551,748	7 11	202,063	119,893	11 10	87,226	43,890	10 1	80,546	99,325	24 8
1892	3,664,771½	759,643	4 1	1,229,809½	516,524	8 -	261,200	143,062	10 11	100,228½	53,973	10 9	77,649	98,296½	25 4
YEARS.	‡ OTHER KINDS OF FISH.						TOTAL TAKEN BY NET AND LINE.			TOTAL TAKEN BY TRAWL.			TOTAL QUANTITY AND VALUE OF ALL FISH LANDED.		
	Net and Line.			Trawl.			Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.	Cwts.	£.	Per Cwt. s. d.
1889	59,187	12,187	4 -	28,176	4,202	2 11	5,336,715	1,295,869	4 10	252,524	168,306	12 6	5,589,239	1,454,175	5 3
1890	57,734	13,448	4 8	41,485	6,030	2 11	5,572,676	1,419,726	5 1	391,813	203,620	13 11	5,864,488	1,623,346	5 6
1891	66,499	13,374	4 -	40,438	7,502	3 9	5,111,159	1,535,774	6 -	323,047	226,720	14 -	5,434,206	1,762,494	6 6
1892	61,224	14,646	4 9	41,256	9,410½	4 7	5,056,033½	1,344,787	5 4	380,105	260,768	13 2	5,436,138½	1,596,555	5 10

* Include Cod, Ling, Torak, Saithe, Whiting, Haddocks, and Conger Eel.

† Include Flounders, Plaice, Brill, Skate, Halibut, Lemon Sole, and Turbot.

‡ Include principally Hake, Bream, Gurnard, Cat Fish, and Sillock.

RETURN showing the Number of FISHING BOATS, BEAM TRAWL VESSELS, and FISHING MATERIAL, with the VALUE thereof, belonging to *Scotland*, as well as the Number of FISHERMEN Employed, distinguishing those Engaged on NET and LINE BOATS from those on BEAM TRAWL VESSELS, during the Years 1889 to 1892, inclusive.

YEARS.	Total Number of Fishermen belonging to Scotland.	Boats used in Net and Line Fishing, and Value thereof.		Fishermen employed on Net and Line Boats.	Beam Trawl Vessels, and Value thereof.		Fishermen employed on Beam Trawl Vessels.	Value of Boats and Beam Trawl Vessels.	Value of Fishing Material.	Total Value of Boats, Beam Trawl Vessels and Fishing Material.
		Number.	Value.		Number.	Value.				
1889	47,943	14,604	£. 717,554	47,465	110	£. 111,174	478	£. 828,728	£. 774,579	£. 1,603,307
1890	47,150	14,334	684,691	46,655	118	148,873	495	833,564	757,072	1,590,636
1891	45,524	13,801	676,462	44,898	132	212,113	626	888,565	748,740	1,637,306
1892	46,331	13,865	680,596	45,629	140	228,987	702	909,583	743,906	1,653,489

TABLE C.

FISHERY BOARD FOR SCOTLAND.

CLOSE TIME FOR HERRINGS.

PRÉCIS of Opinions thereon by Fishcurers, Fish Merchants, and Fishermen, round the coasts of Scotland, obtained through Fishery Officers, under Remit from Board Meeting of 23rd February 1892.

Eyemouth District.

Berwick and Spittal fishermen unanimously *approve* of a close time for the east coast between 1st May and 10th July; North Sunderland fishermen between 1st April and 1st July, while those at Coldingham, Burmouth, Eyemouth, and Beadnell unanimously *disapprove* of it; Craster fishermen also *disapprove*, as it would prevent them from procuring bait.

Leith District.

Fishermen, fishcurers, and fish merchants (with one exception) approve of a close time, subject to permission being granted to take herrings for bait, all round Scottish coasts, excepting at Barra and Uist, for:—

Lewis and Harris, between 1st April and 15th or 20th May (Leith fishcurers wish this enforced as regards coast between Hebrides and Scrabster);

Shetland, between 15th May and 15th June;

Orkney (excepting Stromness) and *East Coast to Fifeness*, between 1st May and 15th or 20th July; and

From Fifeness southwards, between 1st May and 30th June.

Anstruther District.

Fishermen practically unanimous as to the desirability of having a close time on east coast.

Majority wish it to extend from 1st May to 10th July, while others (whose opinions are considered more valuable by the officer) suggest 1st June to 12th July.

Permission to be given to fish for bait. Two-thirds of fishcurers opposed to close time, and remainder indifferent.

Montrose District.

Of 900 herring fishermen, 760 desire a close time for the east coast for three or four weeks previous to 12th July. Fishcurers and merchants concur. Gourdon fishermen, by small majority, recommend no close time unless it be international.

Stonehaven District.

Fishermen (with one exception) and large majority of fishcurers desire a close time for the east coast; large proportion think it should extend from 15th June to 10th July, while others are of opinion that the period should be either from 1st June to 10th, 12th, or 15th July, or from 10th June to 10th July.

A good many fishermen think foreign fishermen should be prohibited from landing herrings in Scotland during close time.

Permission also to be given to fish for bait.

Aberdeen District.

General opinion of fishcurers, merchants, and fishermen is that a close time from 1st May or 1st June to 10th July is desirable, fishing for purposes of bait being permissible.

Peterhead District.

Majority of fishermen favour an international close time, extending over first 10 days of July, while a large number are opposed to it. Fishcurers are very divided on the subject, and merchants are indifferent.

Fraserburgh District.

Consensus of opinions expressed by fishcurers, fish merchants, and fishermen unfavourable to a close time :—

Upwards of three-fourths of fishermen at Cairnbulg, St. Combs, and Inverallochy *opposed* to it.

About two-thirds of those at Fraserburgh and Broadsea *favourable* ; to extend from 1st May to 15th July, curers and fishermen at Sandhaven, Pittulie, Roseheart, and Pennan, *indifferent* ; but, if enforced, should be international.

Nets should be of larger mesh early in season.

Banff District.

Of 1,450 fishermen, nearly 1,000 are opposed to a close time, the remainder (450) being favourable to one extending from 1st to 15th July, while of 23 curers, 19 are opposed to a close time.

Buckie District.

Majority of fishermen desire close time :—

(1.) From Barra Head to Scrabster, between 15th April and 15th May.

(2.) For east coast, between middle of June and 10th July.

Nearly all fishcurers desire a close time from Barra Head to Scrabster, as specified, but not for east coast, until 1st September ; while a good many of the poorer fishermen are opposed to a close time.

Findhorn District.

Fishcurers (with one exception) and fishermen unanimously desire a close time, the large majority fixing the period from 31st March to 15th May for the west coast, and from 15th June to 15th July for the east coast. Those at Hopeman think it must be international before it can confer any benefit.

Cromarty District.

Fishermen, &c., of opinion that a close time, extending from 15th June to 15th July, is desirable.

Helmsdale District.

All curers and large majority of fishermen in favour of a close time to extend from 1st June to 12th or 15th July.

Lybster District.

Fishcurers and fishermen, almost without exception, desire a close time to be enforced between 1st May and 18th July.

Wick District.

Fishermen, with very few exceptions, are in favour of a close time for the east coast and the east side of the Orkney Islands, between 15th May and 15th July.

Fishcurers about equally divided, one-half being opposed to, and the bulk of the remainder being in favour of the fishermen's proposals, while the very few merchants are opposed to a close time.

Orkney District.

Fishcurers and fishermen think an international close time on the east coast (excepting Stromness in Orkney, Scrabster, and west side of Shetland), between 1st or 15th June and 15th July, would be beneficial.

Shetland District.

General opinion favourable to a close time between 1st May and 15th June, capture of herrings for bait being permissible.

Stornoway District.

Fishcurers, merchants, and fishermen favour a close time between the Mull of Cantyre and Duncansbay Head from 15th April to 15th May ; the former wishing it to be arranged so that the fishing will commence on a Monday.

Close time is already observed.

Barra District.

Fish merchants and fishermen do not consider a close time desirable at Lochboisdale, Castlebay, and Vatersay.

Loch Carron District.

Fishcurers, merchants, and fishermen all favour a close time ; those on the mainland and in Broadford from 1st February to 30th June ; those on the south and west sides of Skye from 1st February to 15th May ; and those in Portree from 1st March to 15th May, fishing for purposes of bait being permissible.

Loch Broom District.

Fishcurers and fishermen unanimously desire a close time, to extend on the west coast from 15th April to 15th May inclusive, and on east coast from 10th June to 10th July inclusive, capture of herrings for bait being permissible at all times.

Fort William District.

At the most important stations, viz., at Loch Nevis, Arisaig, Mallaig, and Ardnamurchan, the fishermen favour a close time; those at the three former from 1st January to 15th May, and at the latter for the Ballantrae Banks during the spring months, beginning 1st February. Tobermory men concur in latter proposal.

Fort William men wish one extending from middle of December to middle of June, while those at Oban disapprove of a close time.

Campbeltown District.

Fishermen at present observe a close time for this district extending from 15th March to 1st June, capture of herrings for bait being permitted.

All favourable to a close time for the district, extending over the months of March, April, and May.

Inveraray District.

Fishermen unanimously desire a close time (to apply to Kilbrennan Sound and Lochfyne), extending from 1st March to 1st June.

Rothsay District.

General opinion favourable to a close time, extending from 1st February to 1st June, capture of herrings for bait being permissible.

Greenock District.

Majority of fishcurers and merchants at *Glasgow*, indifferent; remainder favour a close time from 1st February till 1st June.

Greenock fishcurers agree to latter proposal.

Majority of fishermen in district favour a close time, the greater number being of opinion that it should extend from 1st February to 1st June, while remainder prefer 1st February to 15th May; fishing for bait to be permissible.

Ballantrae District.

Drift and trammel-net fishermen opposed to a close time, but desire seine-net fishing to be prohibited entirely.

TABLE D.

ACCOUNT showing the QUANTITIES and VALUE of FISH, FRESH and CURED, imported into each Port of *Scotland* during the Year 1892.

PORTS.	FISH, FRESH, NOT OF BRITISH TAKING.						FISH CURED.				TOTAL QUANTITY AND VALUE OF FRESH AND CURED FISH IMPORTED.	
	HERRINGS.		SHELL-FISH.		OTHER SORTS.		SARDINES.		UNENUMERATED.			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Cwts.</i>	<i>£.</i>	<i>Cwts.</i>	<i>£.</i>	<i>Cwts.</i>	<i>£.</i>	<i>Cwts.</i>	<i>£.</i>	<i>Cwts.</i>	<i>£.</i>	<i>Cwts.</i>	<i>£.</i>
Leith - - -	583	590	23,818	3,684	20	72	49	135	56,923	44,576	81,292	50,107
Aberdeen - - -	—	—	8,247	919	—	—	—	—	—	—	8,247	919
Glasgow - - -	—	—	1,079	1,098	—	—	3,249	9,937	5,292	4,081	9,630	16,066
Grangemouth - -	1,090	518	164	340	8	10	—	—	5,753	5,390	7,015	6,268
Granton - - -	60	30	—	—	52	50	—	—	9,924	7,609	10,086	7,679
Greenock - - -	—	—	—	—	—	—	—	—	888	389	888	389
Kirkcaldy - - -	—	—	—	—	—	—	—	—	330	140	330	140
Kirkwall - - -	—	—	—	—	—	—	—	—	19,165	8,410	19,165	8,410
Lerwick - - -	—	—	—	—	210	64	—	—	2,571	1,292	2,781	1,356
Montrose - - -	140	13	1,991	217	—	—	—	—	—	—	2,131	280
GROSS TOTAL - -	1,873	1,141	35,299	6,268	290	196	3,298	10,122	100,845	73,837	141,605	91,554

FISHERY BOARD FOR SCOTLAND—FISHERY STATISTICS.

RETURN of FISH LANDED during the Months from December 1891 to April 1892, and from December 1892 to April 1893, in the Fishery Districts extending from *Aberdeen* to *Wick* inclusive.

MONTH.	HERRING.		SPRAT.		SPARLING.		MACKEREL.		COD.		LING.		TORSK (TUSK).		SAITH (COALFISH).		HADDOCK.	
	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.
1891:		£.		£.		£.		£.		£.		£.		£.		£.		£.
December - - -	488	94	-	-	-	-	-	-	12,378	7,399	1,023	596	8	2	906	187	38,175	24,982
1892:																		
January - - -	23,564	5,349	-	-	-	-	12	5	15,084	8,090	2,379	1,323	2	1	1,017	184	33,380	30,341
February - - -	12,024	2,604	-	-	-	-	-	-	27,582	12,778	7,035	3,100	7	2	2,841	304	57,224	29,679
March - - -	2,021	541	-	-	-	-	-	-	31,081	11,943	8,796	3,013	62	16	1,827	242	61,504	37,474
April - - -	923½	236	-	-	-	-	-	-	22,084	9,221	7,971	3,378	274	47	1,462	176	33,533	18,812
TOTALS - - -	39,020½	9,824	-	-	-	-	12	5	108,904	49,431	27,204	11,810	353	68	8,043	1,093	222,796	131,168
1892:																		
December - - -	2,788	799	21	8	-	-	-	-	12,369	7,366	1,693	981	5	1	1,170	222	37,086	22,695
1893:																		
January - - -	22,146	7,191	-	-	-	-	-	-	12,041	6,106	2,821	1,487	-	-	1,409	259	46,111	36,604
February - - -	27,244½	9,118	-	-	-	-	10	5	16,335	8,492	4,173	1,891	72	22	1,170	194	61,662	31,327
March - - -	1,589½	501	-	-	-	-	-	-	14,712	8,735	5,363	2,621	401	87	1,027	173	47,363	29,640
April - - -	1,847	366	-	-	-	-	-	-	24,537	7,553	11,679	3,663	1,023	212	1,664	219	31,804	18,839
TOTALS - - -	65,915	17,975	21	8	-	-	10	5	79,994	38,151	28,729	10,648	1,504	222	6,440	1,073	222,926	129,106
Increases of 1892-93 on 1891-92 - - -	26,594½	8,151	21	8	-	-	-	-	-	-	-	-	1,151	254	-	-	180	7,947
Decreases of 1892-93 from 1891-92 - - -	-	-	-	-	-	-	2	-	22,210	11,280	1,475	662	-	-	1,608	21	-	-
MONTH.	WHITING.		TURBOT.		HALIBUT.		SOLE (LEMON SOLE).		FLOUNDER, PLAICM, BRILL.		EEL.		SKATE.		OTHER KINDS OF WHITE FISH.		TOTAL OF WHITE FISH.	
	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.	Cwts.	Value.
1891:		£.		£.		£.		£.		£.		£.		£.		£.		£.
December - - -	2,788	1,262	269½	1,467	22	31	662	1,447	3,971	4,213	237	114	763	222	3,808	1,356	65,490½	43,342
1892:																		
January - - -	1,792	811	85½	401	95½	179	409	1,177	2,544	3,162	129½	67	1,023	300	3,596	1,428	85,092½	42,609
February - - -	1,986	748	184	769	374	640	787½	2,060	6,143	6,018	121	80	1,982	654	4,586	1,096	122,876½	61,463
March - - -	1,802	696	147½	508	795½	1,338	1,272	2,252	3,709½	3,554	59	36	4,307	1,115	4,531	763	121,914½	53,497
April - - -	1,897	884	197	770	3,456	5,082	2,041	3,550	2,306	2,183	45	27	7,118	1,706	3,902	751	87,199½	46,774
TOTALS - - -	10,262	4,401	883½	2,915	4,743	7,221	5,171½	10,487	18,673½	19,131	591½	324	15,193	3,987	20,423	5,329	482,573½	247,684
1892:																		
December - - -	1,209	529	235	985	79½	158	1,130	2,236	3,293	3,630	449	262	1,288	379	6,378	1,794	70,193½	41,945
1893:																		
January - - -	744	320	90½	392	124½	239	479½	1,160	3,318	3,453	163½	105	1,768	454	4,440	1,101	95,656	48,870
February - - -	603	267	147½	561	373½	681	428	1,218	3,126	3,158	107	55	2,192	683	4,097	937	130,640½	58,599
March - - -	592	364	299½	1,243	3,021	3,969	1,042	2,357	2,871	2,876	84	66	7,159	1,904	3,268	791	88,795	56,222
April - - -	1,203	1,127	360½	1,150	4,510	4,895	1,872	2,945	2,278	2,239	50	29	7,508	1,140	5,195	1,010	95,580½	46,892
TOTALS - - -	4,351	2,597	1,133	4,331	8,108½	9,942	4,951½	9,916	14,886	15,356	853½	517	19,915	4,560	22,378	5,633	480,816½	250,138
Increases of 1892-93 on 1891-92 - - -	-	-	249½	416	3,365½	2,721	-	-	-	-	262	193	4,722	573	2,955	304	-	2,454
Decreases of 1892-93 from 1891-92 - - -	5,911	1,804	-	-	-	-	220	571	3,787½	3,775	-	-	-	-	-	-	1,757½	-

Fishery Board for Scotland, Edinburgh.
June 1893.

APPENDIX, No. 7.

PAPER handed in by Professor W. C. McIntosh, 8 June 1893.

Appendix (A).

FISHERY BOARD FOR SCOTLAND.

STATEMENT showing the QUANTITIES and VALUES of FISH landed in Scotland and Consumed Fresh, in each Year from 1884 to 1892.

YEAR.	ROUND FISH.														Other White Fish.	
	Cod.*		Ling.*		Torsk.*		Saitha.*		Haddock.		Whiting.		Conger.			
	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.
1884 - - -	144,365	78,947	31,481	18,496	987	375	40,032	10,106	464,049	300,713	71,507	32,808	-	-	56,473	19,138
1885 - - -	301,108	92,456	49,090	27,319	531	181	47,096	10,406	522,464	304,612	99,638	38,551	-	-	74,223	22,476
1886 - - -	198,093	84,593	39,708	17,921	888	292	64,468	10,310	671,316	327,023	74,933	28,954	1,306	728	76,887	25,126
1887 - - -	171,101	74,956	24,817	15,443	1,203	232	50,743	8,940	750,364	322,723	78,762	26,727	2,795	2,000	110,380	25,279
1888 - - -	229,116	97,642	39,556	19,000	2,052	454	52,081	8,265	820,498	322,124	76,755	25,637	6,797	2,689	104,414	20,176
1889 - - -	229,522	78,454	93,474	32,326	9,131	1,369	49,225	6,972	792,130	321,215	69,694	22,786	16,220	8,552	87,263	16,289
1890 - - -	215,070	75,274	90,483	31,669	6,070	925	90,571	11,321	753,554	370,252	75,522	20,240	14,076	7,027	98,971	18,592
1891 - - -	275,587	101,085	51,843	16,416	2,182	254	44,561	5,755	726,287	375,557	71,076	29,489	11,846½	6,124	106,937	20,876
1892 - - -	262,402½	117,786	66,243½	25,200	2,226	421	41,258	7,256	722,785	394,277	49,102	25,617	11,618	6,117	114,262½	27,265

ANNUAL AVERAGES for the first Three and the last Three Years of Period.

Average:																
1884—1886 -	181,155	85,665	40,093	21,212	785	233	50,526	10,274	552,609	310,722	82,026	32,426	-	-	69,194	22,590
1890—1892 -	251,286	96,048	69,523	24,426	2,492	570	62,820	8,111	722,206	380,029	65,222	28,549	-	-	106,756	22,625
Increase - -	70,231	12,383	29,430	3,215	2,708	237	8,294	-	169,597	69,247	-	-	-	-	27,562	-
Decrease - -	-	-	-	-	-	-	-	2,163	-	-	16,792	4,789	-	-	-	95

* The figures under these headings are exclusive of the quantities cured.

YEAR.	FLAT FISH.								Skates.	
	Turbot.		Halibut.		Lemon Sole.		Plaice, Flounder, and Brill.			
	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.	Cwts.	£.
1884 - - -	4,234	9,368	22,050	17,624	4,163	5,589	72,788	47,722	61,982	14,171
1885 - - -	7,260	12,525	28,427	20,053	5,898	7,486	82,810	52,865	108,552	15,767
1886 - - -	2,882	9,774	29,884	22,126	7,573	9,372	81,164	50,198	52,046	10,519
1887 - - -	5,262	14,426	18,929	16,479	11,747	12,326	96,254	59,862	46,019	9,625
1888 - - -	5,424	16,210	20,197	19,721	12,669	16,512	87,184	55,918	59,089	12,014
1889 - - -	6,228	20,472	21,094½	18,496	14,291	21,225	74,270½	52,072	50,087	10,875
1890 - - -	5,554½	18,459	20,221½	18,645	16,65½	27,226	81,209	62,187	52,764	11,677
1891 - - -	5,015½	17,215	19,164½	17,161	17,729½	20,222	78,776½	67,108	47,076	11,512
1892 - - -	4,598½	14,510	25,279½	27,169	22,250½	27,155	70,865	61,448	52,784	11,267

ANNUAL AVERAGES for the first Three and the last Three Years of Period.

Average:										
1884—1886 -	5,155	10,892	27,120	19,222	5,578	7,422	79,244	50,962	72,526	12,496
1890—1892 -	5,056	16,728	21,558	20,992	19,247	31,582	76,962	65,579	51,541	11,726
Increase - -	-	5,836	-	1,064	12,269	24,160	-	16,217	-	-
Decrease - -	99	-	5,562	-	-	-	2,261	-	21,985	1,760

Appendix (B).

FISHERY BOARD FOR SCOTLAND.

STATEMENT showing the QUANTITIES and VALUES of SHELL-FISH landed in *Scotland*, in each Year from 1883 to 1892.

YEAR.	Oysters.		Mussels.		Clams.		Lobsters.		Crabs.		Other Kinds. Whelks, Razor Fish, Shrimps, Limpets, Luckies, Cockles.		TOTAL Value.
	Hundreds.	£.	Cwts.	£.	Cwts.	£.	Number.	£.	Number.	£.	Cwts.	£.	£.
1883 - - -	6,456	2,406	281,569	16,548	-	-	749,800	22,966	2,589,300	19,716	49,416	10,309	82,945
1884 - - -	5,176	2,174	249,348	16,062	-	-	727,100	29,942	4,147,300	22,799	42,246	8,962	80,939
1885 - - -	2,302	809	244,262	15,267	-	-	956,300	25,081	2,249,900	22,740	54,196	14,196	89,198
1886 - - -	2,956½	1,295	261,262	14,864	9,100	1,256	749,300	20,505	2,284,650	12,544	62,221	11,823	72,287
1887 - - -	2,120	965	276,296	15,411	17,294	2,220	681,100	26,647	2,215,700	12,207	55,428	9,665	67,215
1888 - - -	1,627	742	249,627	15,266	20,674	2,918	678,200	28,092	2,081,775	14,717	55,578	9,892	71,728
1889 - - -	2,119½	1,452	188,624	11,677	22,617	2,564	576,400	24,449	2,774,200	12,297	52,621	9,661	62,201
1890 - - -	2,502	1,526	181,194	11,201	25,761	2,211	642,200	22,240	2,282,200	44,568	54,169	9,667	68,612
1891 - - -	2,512	1,568	221,165	14,229	28,526	2,250	685,600	21,668	2,092,400	15,295	50,720	9,955	76,165
1892 - - -	2,150	1,522	247,186	14,506	20,769	2,726	741,000	22,527	2,117,900	16,710	62,127	12,477	80,488
Averages:													
1883—1887 -	2,784	1,720	262,549	16,680	-	-	772,720	21,028	2,107,270	18,621	52,905	10,991	78,726
1888—1892 -	2,962	1,264	219,601	12,416	-	-	664,880	29,015	2,989,720	14,929	55,249	10,220	72,089
Increase - -	-	-	-	-	-	-	-	-	-	-	2,244	-	-
Decrease - -	822	266	42,948	2,224	-	-	107,240	2,012	117,650	2,682	-	661	6,697

Appendix (D).

STATEMENT showing the Number, &c., of BEAM-TRAWL VESSELS and FISHING BOATS in each Year from 1883 to 1892.

1. BEAM-TRAWL VESSELS.

YEAR.	Steam Trawl Vessels.					Total Trawl Vessels (including Sailing Vessels and Boats).					
	Number.	Tons.	Men.	Value of Vessels.	Value of Nets, &c.	Number.	Tons.	Men.	Value of Vessels.	Value of Nets, &c.	
				£.	£.				£.	£.	
1883	-	-	-	—	—	*47	2,004	-	59,980	—	
1884	-	-	-	—	—	61	2,284	-	117,770	—	
1885	-	-	-	—	—	105	2,857	-	114,845	—	
1886	-	-	-	—	—	109	2,914	-	94,849	—	
1887	-	-	-	—	—	103	2,304	-	73,394	—	
1888	-	-	-	—	—	107	2,689	-	84,421	—	
1889	-	38	4,369	276	109,906	4,810	110	4,982	478	111,174	6,204
1890	-	47	4,105	350	144,805	6,920	118	4,705	495	148,873	8,258
1891	-	61	5,929	457	208,452	8,410	132	6,484	626	212,113	9,662
1892	-	70	6,749	532	226,034	10,800	140	-	702	228,987	11,987

* Nearly all steamers.

2. FISHING BOATS.

YEAR.	Number.	Tonnage.
1883 - - - -	15,247	121,146
1884 - - - -	15,384	120,291
1885 - - - -	15,427	130,434
1886 - - - -	15,235	128,466
1887 - - - -	15,032	126,118
1888 - - - -	14,797	121,763
1889 - - - -	14,604	118,637
1890 - - - -	14,234	115,445
1891 - - - -	13,801	114,007
1892 - - - -	13,865	114,268

Appendix (D.)

FISHERY BOARD FOR SCOTLAND.—SCIENTIFIC INVESTIGATIONS.

ABSTRACT of "GARLAND'S" Returns.

FIRTH OF FORTH.

YEAR.	FLAT FISH.									ROUND FISH.							
	Plaice.	Lemon Soles.	Witch Soles.	Common Dabs.	Long Rough Dabs.	Flounders.	Turbot.	Brill.	TOTAL.	Cod.	Haddock.	Whiting.	Gurnard.	TOTAL.	Skate.	Other Fish.	TOTAL.
I.—CLOSED AREA.																	
1886 -	47.9	20.3	-	46.6		0.3	0.1	-	115.2	10.5	97.6	11.0	12.3	131.7	2.0	2.2	251.1
1887 -	78.7	48.3	-	71.8		1.8	-	-	200.6	11.9	99.5	14.2	18.8	144.4	2.7	2.8	251.5
1888 -	50.1	21.8	0.4	28.8	13.4	-	-	-	114.6	12.7	41.8	24.4	12.1	92.1	2.3	2.2	211.4
1889 -	52.8	12.1	0.2	24.1	16.7	0.9	-	-	109.1	12.0	11.9	12.6	12.2	49.8	1.9	4.0	164.8
1890 -	28.3	11.9	0.5	20.5	19.1	0.4	0.04	-	100.9	27.5	22.1	56.9	7.5	121.9	2.2	4.4	228.9
1891 -	42.5	12.2	0.3	27.7	19.4	0.5	0.0	0.1	115.0	12.9	12.6	25.0	15.0	67.7	2.0	4.5	189.4
1892 -	26.4	12.5	0.4	26.0	20.1	0.5	0.07	0.07	106.3	2.4	22.1	16.8	22.7	71.3	1.5	5.1	184.4
II.—OPEN AREA.																	
1886 -	1.0	2.0	-	41.0		-	-	-	44.0	1.5	20.5	2.7	1.7	26.4	2.5	1.5	55.4
1887 -	5.8	8.6	-	68.4		5.4	0.5	-	89.7	0.8	91.6	6.2	24.8	123.4	1.0	0.6	212.7
1888 -	2.2	1.5	4.1	8.8	14.9	-	-	-	32.6	2.6	54.9	40.9	15.3	114.7	1.9	2.1	151.2
1889 -	2.7	2.6	1.3	11.5	17.1	2.0	-	-	28.3	2.3	20.1	19.9	15.2	68.6	2.0	2.0	111.9
1890 -	1.8	1.2	1.2	21.9	27.4	-	-	-	52.7	6.4	40.2	121.6	16.3	184.7	1.5	1.5	241.6
1891 -	2.8	1.4	1.8	17.2	27.2	-	-	-	50.8	2.3	11.9	9.0	15.2	28.6	1.5	2.0	92.0
1892 -	2.1	0.6	1.4	6.1	22.2	0.1	-	-	42.0	2.0	42.4	14.4	8.6	78.0	1.4	1.5	119.4

ST. ANDREW'S BAY.

I.—CLOSED AREA.																	
1886 -	72.2	0.5	-	72.0		1.2	-	-	147.0	0.6	8.2	0.2	18.5	27.6	1.5	0.7	176.8
1887 -	180.0	0.3	-	155.0		5.5	-	-	240.7	0.2	47.2	0.2	29.7	87.5	4.4	1.6	428.8
1888 -	116.2	0.2	-	25.6	2.0	0.1	-	-	213.2	0.2	40.2	6.2	22.2	68.9	2.4	1.4	286.0
1889 -	126.1	0.2	-	46.1	0.2	4.6	-	-	187.4	0.5	0.6	1.2	16.7	19.2	1.5	1.1	208.5
1890 -	207.6	0.1	-	89.9	0.4	4.7	0.08	-	202.9	1.2	1.2	12.0	24.2	40.0	2.0	2.4	247.2
1891 -	42.3	0.0	-	59.5	0.5	0.8	-	-	109.4	0.8	1.7	2.0	14.1	19.8	1.2	2.2	122.8
1892 -	42.4	0.2	-	20.9	0.7	2.2	0.1	0.2	84.0	1.2	1.0	10.0	24.1	26.6	1.2	6.4	128.4
II.—OPEN AREA.																	
1886 -	59.0	5.6	-	21.0		1.6	-	-	97.2	1.6	17.6	2.2	50.2	72.8	1.2	0.2	171.6
1887 -	28.7	24.7	-	52.7		12.2	-	-	129.4	-	62.5	6.7	102.0	172.2	2.5	2.2	206.4
1888 -	49.6	1.4	-	22.6	4.8	-	-	-	148.2	0.6	21.6	26.0	14.2	72.4	0.4	-	221.2
1889 -	54.1	0.5	-	91.0	2.5	2.1	-	-	151.4	0.1	2.1	2.0	25.5	29.8	1.1	0.7	182.1
1890 -	12.0	0.6	-	11.8	2.2	2.5	0.1	-	29.8	2.0	0.6	15.1	16.6	25.6	1.1	0.1	66.2
1891 -	42.8	0.2	-	210.8	1.5	0.2	-	-	261.8	2.1	2.0	6.5	14.1	20.8	0.5	7.0	200.1
1892 -	15.0	0.2	-	21.2	1.6	1.5	0.2	0.1	50.2	0.1	8.8	4.2	40.2	52.6	0.7	0.1	105.7

ABSTRACT of "GARLAND'S" Returns—continued.

AVERAGES.

FIRTH OF FORTH.

YEAR.	FLAT FISH.									ROUND FISH.					Shale.	Other Fish.	TOTAL.
	Plaice.	Lemon Sole.	Witch Sole.	Common Dab.	Long Rough Dab.	Flounders.	Turbot.	Brill.	TOTAL.	Cod.	Haddock.	Whiting.	Gurnards.	TOTAL.			
I.—CLOSED AREA.																	
1886—1888	-	58.9	80.1	0.1	53.5	0.7	-	-	143.5	11.7	79.6	16.5	14.7	132.7	2.8	3.7	371.3
1890—1892	-	39.4	12.5	0.4	54.3	0.5	-	-	107.4	16.9	21.6	23.9	15.1	87.0	1.9	4.6	300.2
Decrease	-	19.5	17.6	-	-	0.2	-	-	36.1	-	58.0	-	-	45.7	0.4	-	71.1
Increase	-	-	-	0.3	0.8	-	-	-	-	5.2	-	16.4	0.4	-	-	1.9	-
II.—OPEN AREA.																	
1886—1888	-	3.0	3.4	1.3	44.3	1.3	-	-	55.1	2.0	59.0	16.6	13.9	91.5	2.1	1.4	180.1
1890—1892	-	2.2	1.0	1.5	44.3	0.03	-	-	49.2	2.9	31.5	48.0	13.4	96.8	1.5	1.6	151.3
Increase	-	-	-	0.2	-	-	-	-	-	1.9	-	21.4	-	7.3	-	0.2	1.2
Decrease	-	0.8	2.4	-	-	1.77	-	-	5.9	-	28.5	-	0.5	-	0.6	-	-

ST. ANDREW'S BAY.

I.—CLOSED AREA.																	
1886—1888	122.6	0.3	0.0	106.2	2.3	-	-	-	233.6	0.3	31.6	2.9	26.8	61.3	2.3	1.2	397.2
1890—1892	101.4	0.1	-	60.6	2.9	-	-	-	165.4	1.1	1.3	9.7	20.8	32.1	1.5	4.0	303.1
Decrease	21.4	0.2	-	47.6	-	-	-	-	68.2	-	30.3	-	6.0	29.2	1.3	-	94.1
Increase	-	-	-	-	0.6	-	-	-	-	0.8	-	8.8	-	-	-	2.8	-
II.—OPEN AREA.																	
1886—1888	49.1	10.6	-	60.3	4.9	-	-	-	124.9	0.7	37.6	12.0	55.8	106.2	1.7	0.8	233.7
1890—1892	25.2	0.4	-	36.6	1.4	-	-	-	113.9	2.7	3.3	8.6	23.6	36.7	0.8	2.4	167.5
Decrease	23.9	10.2	-	-	3.5	-	-	-	11.0	-	34.3	2.4	32.2	69.5	0.9	-	79.2
Increase	-	-	-	23.7	-	-	-	-	-	2.0	-	-	-	-	-	1.6	-

BOTH COMBINED.

I.—CLOSED AREA.																	
1886—1888	90.4	15.2	0.05	80.8	1.5	-	-	-	188.6	6.0	55.7	9.7	20.7	92.0	2.5	1.9	284.2
1890—1892	70.4	6.3	0.20	57.4	1.7	-	-	-	136.4	9.0	11.5	20.8	18.0	59.5	1.7	4.3	201.6
Increase	-	-	0.15	-	0.2	-	-	-	-	3.0	-	11.1	-	-	-	2.4	-
Decrease	20.0	8.9	-	23.4	-	-	-	-	52.2	-	44.2	-	2.7	32.5	0.8	-	82.6
II.—OPEN AREA.																	
1886—1888	26.0	7.0	0.4	52.3	2.3	-	-	-	90.0	1.3	48.3	14.3	24.9	96.9	1.9	1.1	191.9
1890—1892	12.7	0.7	0.7	55.4	0.7	-	-	-	81.5	2.8	17.6	28.3	18.5	67.7	1.1	2.0	154.4
Increase	1.0	-	0.3	13.1	-	-	-	-	-	2.5	-	14.0	-	-	-	0.9	-
Decrease	12.3	6.3	-	-	2.6	-	-	-	8.5	-	30.7	-	16.4	21.2	0.8	-	37.5

APPENDIX, No. 8.

PAPER handed in by Mr. E. W. L. Holt, 13 June 1893.

STATISTICS—PLAICE.—MAY.

Total quantity landed by fishing vessels at Grimsby during month, less one day, 19,259 boxes = 22,177 cwt.

Total includes	-	-	-	{ North Sea fish	-	-	15,176 boxes = 17,073 cwt.
				{ Iceland fish	-	-	4,083 boxes = 5,104 cwt.

Total North Sea fish comprises	-	{ 7,532 boxes "large."
	-	{ 7,644 boxes "small."

Average contents of a box of "large," 100 fish.

No boats fishing on Great Fisher Bank this month; hence average rather higher than if they were.

Average contents of a box of "small," 250 fish.

Hence total number of fish in boxes of "large," 753,200 (Seven hundred and fifty-three thousand two hundred).

" " " "small," 1,911,000 (One million, nine hundred and eleven thousand).

Total number of North Sea fish - 2,664,200 (Two million six hundred and sixty-four thousand two hundred).

In boxes of "large," 10 per cent. under 13 in.	Hence 75,320 fish under 13 in. in "large "	} Total under 13-in.
" " "small," 90 " " " " " 1,719,900 " " " "small "	" " " " " 1,795,220.	

Percentage under 13 in. in all North Sea boxes, 67 per cent.

In boxes of "large," 37 per cent. under 17 in. = 278,684 fish	} Total under 17 in., 2,189,684.
" " "small," 100 " " " " " = 1,911,000 " "	

Percentage under 17 inches in all North Sea boxes, 82 per cent.

Of the total number of boxes landed,—

In 22 voyages, British steam trawlers contributed 3,849 } Total caught by steamships, 5,587 boxes.

In 7 voyages, Foreign " " " 1,738 } " " by smacks, 1,057 boxes.

Percentage of boxes of small caught by steam trawlers = 71 per cent.

Remainder caught chiefly by three Grimsby smack fleets, off Terschelling.

Two Yarmouth (Yarmouth, Lowestoft, and Barking) fleets off Terschelling.

Two Grimsby fleets on Dogger. One lands in London.

Besides fish enumerated above, 85 cases of small plaice brought to market by M. S. and L. steamers. Caught on Continental coast by shore fishermen.

This year's work of one steam trawler on small fish grounds. Six voyages.

Landed first voyage 19th April.

Landed last voyage 2nd June.

Total number boxes of "small," 1,839.

Iceland Fish :

About 30 in a box.

About 31 per cent. over 17 inches.

None less than 13 inches.

APPENDIX, No. 9.

PAPER handed in by Mr. E. W. L. Holt, 15 June 1893.

(A.)

PERCENTAGES OF FISH OF DIFFERENT SIZES CAUGHT ON VARIOUS NORTH SEA GROUNDS.

PLAICE.

Fifteen hauls of Steam Trawlers on the Dogger Bank in April and July 1892 :—

Total number of plaice caught	-	-	-	-	641.
Percentage under 17 inches in length	-	-	-	-	36 per cent.
Percentage under 13 inches	-	-	-	-	Not recorded.

Seven hauls of a Steam Trawler on the Great Fisher Bank in July 1892 :—

Total number of plaice caught	-	-	-	-	580.
Percentage under 17 inches	-	-	-	-	2 per cent.
Percentage under 13 inches	-	-	-	-	0 "

Eight hauls of a Steam Trawler on the Coast of Denmark, North of the Horn Reef, July 1892 :—

Total number of plaice caught	-	-	-	-	560.
Percentage under 17 inches	-	-	-	-	76 per cent.
Percentage under 13 inches	-	-	-	-	Not recorded.

The above records kept by
Ernest W. L. Holt.

(B.)

ANALYSIS OF LENGTH OF HAULS.

Steam Vessels :

In Steamship "Dominican," on Fisher Bank, below the Reef, and western part of Dogger, Nineteen hauls, 118 hours 30 minutes.

Average haul - - - - - 6 hours 15 minutes.

In Steamship "Resolute," on western part of Dogger, Thirteen hauls, 89 hours.

Average haul - - - - - 6 hours 50 minutes.

All grounds open. Average of all hauls (32) of "Dominican" and "Resolute," 6 hours 28 minutes.

Seven voyages of Steamship "Aries" :—

Various grounds	-	-	-	-	Longest haul, 6 hours.
Fifty-three hauls, 197 hours	-	-	-	-	Shortest haul, 1 hour.
Average haul	-	-	-	-	3 hours 43 minutes.

Open ground, Five hauls in Silver Pit	-	-	-	-	Average, 5 hours 24 minutes.
" Seven hauls off Flambro' and Whitby	-	-	-	-	" 4 hours 44 minutes.
" Five hauls in Markham's Hole	-	-	-	-	" 4 hours.

Intricate grounds, Thirty-six hauls on Well Bank and neighbourhood ,, 3 hours 13 minutes.

Smacks :

Voyages of four Sailing Smacks :

Various grounds	-	-	-	-	Longest haul, 10 hours.
Fifty-two hauls, 301 hours	-	-	-	-	Shortest haul, 2½ hours.
Average haul	-	-	-	-	5 hours 47 minutes.

Open ground, Fifteen hauls on and about Dogger	-	-	-	-	Average, 7 hours 8 minutes.
Intricate ground, Thirty-two hauls on and about Dowsing	-	-	-	-	" 5 hours 6 minutes.

Note.—It appears that smacks make nearly as long hauls on intricate grounds as steamers on open grounds.

APPENDIX, No. 10.

PAPER handed in by the *Chairman*, 22 June 1893.

Sir,

Billingsgate Market, London, 7 June 1893.

I VENTURE to lay before you some facts as to the sale of immature fish at this market, and to make some suggestions as to the method of mitigating this evil.

During the summer months large quantities of immature fish are brought to this market by the steam carriers from the fleets in the North Sea. These fish are chiefly caught in the shallow waters of the Dutch coast.

At certain times there seems to be a great difficulty in meeting fish in the deep water in any great quantity, the shallow water is then resorted to for a certain large haul of immature fish; but it must be evident that this is a wanton destruction of the coming brood, which would probably grow to ten times the size in a few months. There are also large quantities of small plaice sent from Holland and Denmark during the summer months.

I understand that there is a restriction as to size on the sale of fish in Denmark, so that these immature fish are sent to this market not being saleable in that country.

The effect of this wholesale destruction is very noticeable, even in the short time that I have been Superintendent at this market. In 1887, when I was first appointed, a trunk of good-sized plaice, weighing from 80 to 90 lbs., would sell for 18s. to 20s., which was then considered a good price, but now the same article fetches from 25s. to 35s.

The suggestion I make to alter this state of things is, that it should be made illegal to sell or expose for sale fish under a certain size, scales of size to be determined for each class of fish; it would then be an unprofitable enterprise to fish in waters where it is known these immature fish are.

A similar legislation was found to be imperative some years back in the case of lobsters and crabs, which has shown a very good result, as the catch of full-sized lobsters and crabs is very much larger now than when this action was found necessary.

An inquiry was held, by a committee of the Corporation in 1881, into the question of the fish supply of the metropolis, and in their report the committee especially refer to the subject of the destruction of immature fish.

I am, &c.

(signed) *Chas. E. Le P. Trench*,
Superintendent.

The Right Honourable Edward Marjoribanks, M.P.,
Chairman of the Select Committee on Sea Fisheries.

APPENDIX, No. 11.

PAPER handed in by the *Chairman*, 22 June 1893.To the Right Honourable *Edward Marjoribanks, M.P.* Chairman of the Select Committee on Sea Fisheries.Marine Biological Laboratory, Plymouth,
21 June 1893.

Sir,

WHEN I gave evidence before the Committee I was naturally not asked much about the North Sea, and did not offer my opinions at any length on the question of the protection of undersized fish in that region. But I wish to put before you some considerations which I think may be of use, and to do so without involving any other responsibility than my own. Will you kindly, therefore, accept the following remarks as coming, not from the Marine Biological Association, but from myself as an independent individual.

You are aware that the principal object of the trawling interest on the east coast is, that trawling on the eastern grounds should be stopped, prohibited in some manner by legislation. According to Mr. Holt's evidence, a size limit of 10 inches for plaice and 12 inches for turbot would not prevent trawling on those grounds: and these are the only two kinds of fish of which great quantities of a very small size are taken on those grounds. The trawlers would, according to the same authority, refrain from fishing on those grounds if higher size limits, 13 or 14 inches for plaice, 18 inches for turbot, were enforced, but in that case they would take a certain proportion of prohibited fish on all other grounds, and have to throw them overboard, mostly dead, or land them at foreign ports.

The trawling companies have in some cases forbidden their skippers to fish on the eastern grounds, but as other trawlers continued to fish there and glut the markets with small fish, they felt that the abstention was no good unless it was general, and appealed to Parliament for legislation which would make it general.

Now, Sir, it occurred to me that Parliament might respond to this appeal by passing a law forbidding British fishermen to fish on the eastern grounds within certain defined limits, but I was not sure that this could be done. I therefore asked Sir Edward Clarke's opinion on the matter, and the following is a copy of his reply:

"Dear Sir,

20 June 1893.

"There is no doubt that Parliament can enforce a law to prevent the subjects of the Crown from fishing in any defined areas, whether within the territorial limits or outside them. We are just now doing this very thing in relation to the Behring Sea.

"Faithfully yours,
(signed) "Edward Clarke."

The next question is, can the limits be conveniently defined for practical purposes. I have no hesitation in saying that they can. According to a resolution adopted by a conference at Hull on 30th April 1890, these grounds extend from 53° 50' to 56° north latitude, and from the German and Danish coasts to 7° 30' east longitude. The length of the area thus marked out is 130 miles (nautical), and the breadth from 25 to 50 miles. But these are not exactly the limits of the region requiring protection. The southern limit is unnecessary, being supplied by the Dutch coast, and the small fish grounds extend as far west as Texel. Of course the fishermen do not take their latitude and longitude, and it would be useless to define the closed grounds by lines of that description for practical purposes. But at present British fishermen are not allowed to fish in foreign territorial waters, and these waters are only defined in miles, not by visible marks. If the prohibition were made to apply to 40 or 50 miles from the coast between Texel and the Horn Reef, including the coast of the islands except Heligoland, I think it might be made to work. All the waters in this region are less than 20 fathoms in depth, so that it would be easy to define the limit by buoys put down at intervals of five miles. One cruiser or gun-boat, or perhaps two, could protect the ground, if the penalty of infringement were confiscation of the vessel found fishing within the prohibited limits. The proposal advocated by England for the seal fishery in the Behring Sea, is closely similar to that I am here advocating.

The objection may be made that the prohibition of fishing by British subjects would leave the grounds open to Dutch, German, and Danish fishermen. But this same objection applies equally to the imposition of a size limit on the fish, or rather applies more strongly. For the limits of size in force in Denmark and Holland are so small that if a high size limit were enforced in this country, small fish could still be taken on the eastern grounds and landed in foreign ports, both by foreign and by British fishermen.

The negotiation of an international convention would take a long time, but if the English Government prohibited its subjects from the small fish grounds in extra-territorial waters as above defined, and other nations went on destroying the small fish on these grounds, then representations from this country would have more force.

As to the destruction on the grounds in question by foreign boats, Mr. Holt says (A. p. 390), that a number of German, Dutch, and Danish boats are occupied in catching the small plaice. But he says that they are all of small tonnage, some of them only open boats, and that they do not kill the unmarketable fish.

I would point out that it would only be necessary to patrol or watch the eastern grounds in summer, from April till the end of September, as fishing is not carried on there in winter.

I have, &c.
(signed) J. T. Cunningham.

APPENDIX, No. 12.

PAPER handed in by the *Chairman*, 22 June 1893.

CORRESPONDENCE with Professor GIGLIOLI (Italian Fisheries Commissioner) and with Dr. HEINCKE, Director of the Marine Biological Institute, Heligoland.

(Translations.)

(A.)

To Professor *H. Giglioli*, Fishery Commissioner for Italy

Sir,

London, 4 May.

STILL having most pleasant memories of my visit to your interesting museum at Florence, while staying, two years ago, with Dr. Dunn, I take the liberty of re-introducing myself for the purpose of asking your valuable opinion (in connection with the present Select Committee of our House of Commons, of the instructions to which I enclose an extract) as to whether the proposed legislation is (a) called for; (b) efficient; (c) capable of enforcement. I have quite recently perused your very able report to our Fisheries Exhibition (1883) as well as your treatise on the fish of Naples Bay, neither of which, however, contain any expressions of opinion likely to help me on these particular points. Trusting, therefore, that you will forgive me for trespassing on your valuable time.

Yours, &c.
(signed) *Frederick G. Afalo.*

(B.)—Reply.

Dear Sir,

Florence, 19, Via Romana, 10 May.

DR. DUNN got your letter yesterday, and sent on the enclosure to me this morning. I answer at once, and hope to be in time to be of use.

1st. I opine that, if you wish preserve *soles* and some other flat-fish of economic value on your coasts, you must have strict protective measures to save young (small) specimens of slight value being taken.

2nd. Young pleuronectids love to frequent the shallow bottoms of estuaries, fiords, and such like deep gulfs (I mean deep indentations of the coast line). Such areas ought to be fully protected by local regulations during certain seasons. Of course such measures, which would be *prohibition, or restriction, of trawling* over certain areas, can easily be enforced.

I believe thus to have answered your two questions, at least in the measure of my ability to do so. Of course you are acquainted with the results of the investigations promoted by the Fishery Board for Scotland, and with the fact that the eggs and larvae (embryos) of most of our food-fishes are pelagic, floating at or near the surface.

With best compliments.

Yours, &c.
(signed) *Henry H. Giglioli,*
Fishery Commissioner for Italy.

F. G. Afalo, Esq.,
British Sea Anglers' Society.

(C.)

To Professor Dr. *Heincke*, Director of the Marine Biological Institute, Heligoland.

Sir,

London, 7 May.

As one whom, apart from your recent appointment, I heard of when in Germany as deeply interested in the North Sea Fisheries, I offer no apology for sending you a brief account (as far as I am able) of the business now before a Select Committee of the House of Commons; and shall feel obliged if you will give me the benefit of your views as to the legitimate extent (and possible enforcement) of (1) local, (2) international, restrictive measures; also as to whether you consider that scientists have yet presented us with results sufficiently indisputable to form a safe basis for sweeping enactments, or whether it might perhaps not be advisable to risk a few years' depletion further, and see whether their previous reports are confirmed or falsified by further investigations at your own station and elsewhere.

Dr. Töhl, with whom I studied science at Rostock University during the spring and autumn semesters of 1890, was, I believe, a former colleague of yours, and indeed offered me a letter of introduction, should I care to visit the Kiel Laboratory *en route* home. I was unable to avail myself at the time and have not been in Germany since.

Trusting to receive an early reply.

Yours, &c.
(signed) *Frederick G. Afalo.*

(D.)—Reply to C.

Royal Biological Institute, Heligoland,
16 May.

Dear Sir,

I HAVE to thank you for your letter of the 7th instant, and hasten to give you my views on the subject of international legislation in the North Sea. Our opinions in Germany differ considerably on this subject, but the majority of those concerned are nevertheless opposed to any form of international legislation, since they apprehend that it might result in injury to the free development of our deep sea fisheries as an industry. This is especially the case with the owners of steam-trawlers, a body which, as you are doubtless aware, has within the last seven years increased wonderfully, having been the sole means of establishing a German national fishing industry in the North Sea. Many more are emphatically opposed to any form of international protective legislation, believing it to be very difficult to formulate satisfactorily and almost impossible to enforce.

My personal views on the subject, since you ask for them, are as follows:—

1st. There can be little doubt that the North Sea is approaching a stage of depletion, though it is as yet impossible to offer any *certain* scientific explanation, as this would require the results of a wider experience and more precise scientific research than are at present available. Any attempt at replenishing the depleted fisheries from the ocean, in order to make their supply practically inexhaustible (as has been suggested) appears to me on scientific grounds to be out of the question.

2nd. To replace the exterminated fish by artificial hatching also seems to me, with all respect to the many excellent efforts in this direction, equally impossible, since our hatcheries must, in comparison with the sea, be conducted on a pigmy scale.

3rd. Measures of international protection in the North Sea I consider impossible of accomplishment; and any attempt at introducing such can, I fear, only lead to dispute between the fishermen of different nationalities. The closing of certain districts by international decree appears to me indeed almost absurd, for it is by no means proved beyond question that particular species, the haddock, for example, invariably select fixed breeding-grounds year after year. It is contrary to all scientific experience to assert that fish frequenting the Scotch or English coasts always reproduce their species in the German and Dutch shallows, or *vice versa*.

4th. Protective laws, such at least as can be in any way efficient, can to my way of thinking only as yet be national. I should be in favour of each maritime state on the North Sea prohibiting the landing and sale of under-sized sea-fish, along its own coasts, besides protecting certain bays and fishery districts within territorial limits, where the trawl-fish are known to breed, by a close season. It might perhaps also be advisable to prescribe by national legislation a fixed mesh for the trawl. If the English, as the leading and most experienced fishing nation, will only take the lead in legislating, I am convinced that the other maritime countries will soon follow.

5th. Urgent beyond everything, though not having immediate bearing on the subject of your letter, do I consider some international regulation of signals and lights aboard the North Sea smacks, so that the liners may find protection under international jurisdiction against the injury caused to their gear by trawlers.

I shall be happy to correspond with you further on these important and interesting questions, and remain,

Yours, &c.

(signed) Dr. Heincke,

Director of the Biological Institute, Heligoland;
Member of the Commission of Research in German Seas;
and Member of the Committee of the Coast and
Deep Sea Fisheries Department.

F. G. Afalo, Esq., London.

(E.)—Reply to D.

Dear Sir,

London, 20 May.

I have to thank you for your prompt and very interesting reply to my queries, and propose taking advantage of your kind offer of further assistance to put another question or two.

1st. It is being argued before the Committee, referred to in a previous communication, by those in favour of prohibiting the landing and sale of under-sized fish, that this will be the more effective in preventing their capture, since where the small fish are found, they assert, there are but few large ones, so that visits to these "nurseries" will cease to be remunerative.

My own limited experience, chiefly as an angler, goes to show that the small fish and the previous year's adults occur together indiscriminately, in which case such a measure would, as far as I can see, be practically abortive, since the trawlers would continue to scrape up *everything*, merely returning the "forbidden fruit" (probably extinct) when coming into port. There is also considerable variance of opinion with regard to the percentage survival of fish in a moving trawl.

May I ask your valuable opinion on this subject?

2nd. With regard to the especial efficiency of the English Government prohibiting the landing and sale of under-sized fish, we are further told that such small specimens find no market in any other country, and are only taken by fishermen of all nationalities for sale here.

Is this (in the case of Germany) a correct assertion?

You also suggest that England should set the example by framing certain protective laws, so that other nations might follow. Are you sure that they would adopt such a course? because our men must otherwise suffer, or at least fail to reap the full benefit of such one-sided legislation, much as we have to some extent suffered, as hardly its most enthusiastic supporters could wholly deny, by pioneering free trade.

3rd. Your next suggestion refers to the advisability of fixing a larger mesh for the nets. Can this seem to you effective unless we also prescribe a reduced speed for the smacks? You must have observed how greatly the mesh contracts when traversing the water at a great rate; and besides this, the accumulated seaweed and other *débris* help to hinder the escape of the small fish.

Shorter hauls and frequent sorting out and returning of the under-sized fish would be more to the point; though to enforce this, unless the men themselves are with us heart and soul, would, I fear, necessitate the presence of an inspector aboard each boat, and is therefore out of the question.

Taking, then, one consideration with another (the difficulty of enacting and enforcing legislative measures, the hopelessness of re-stocking, the confusions of scientific opinion, &c.), I venture to suggest that the only obvious course is to educate the fishermen, and show them the folly of their ways. They are a tractable and credulous race, and it cannot be difficult to win over, at all events, the rising generation. Hasty legislation must, in any case, be hopeless.

Apologising for the length of my letter, and begging the favour of a reply, I remain,

Yours, &c.

(signed) Frederick G. Afalo.

Dr. Heincke, &c., &c.

(F.)—Reply to E.

Dear Sir,

Heligoland, 6 June.

In reply to your questions under date 20th ultimo, my ideas would fall *seriatim* under the following divisions :

1. Although there is some difficulty in deciding as to the precise whereabouts of the undersized fish of the North Sea, I believe that the experiences of our fishermen point to the necessity for an Act prohibiting the landing of such fish, since the men would then be only wasting their time in fishing such grounds as harbour principally young and only a small proportion of mature fish, and these grounds are known with more or less certainty. They are, in fact, already avoided to some extent by the German fishermen, who rarely leave their nets down for more than two or three hours ; while the English boats, on the other hand, whose hauls last from six to seven hours, fish even such grounds for the sake of the proportion of large fish captured on a long run, and also, it is to be feared, because they are sure of a market for the small fish as well. Were the latter, therefore, rendered impossible by Statute, fishing expeditions to such grounds could scarcely prove remunerative, and they would, in the natural course, be abandoned for those which were more so.

2. I cannot agree with you that England could in any way be the loser by being the first country to enact and enforce such a measure. The undersized fish caught by English fishermen are, for the most part, sold only in their own market, just as those taken in German nets are, as a rule, disposed of in Germany. One danger there certainly exists, which we have up to the present overlooked, and that is the possibility, if only one maritime state at first issues such a prohibition, of its fishermen taking every opportunity to sell their undersized fish to those of other nationalities, who could then dispose of them at a profit in their respective markets. So that the matter cannot after all be completely set at rest otherwise than by an international understanding, which, as I said in a previous letter, I regard for the present as an impossibility.

Single countries must, at any rate, take the lead with the regulation for their own coasts and markets, after which some form of international compact may be possible. If England takes the initiative, as the principal fishing nation, it will anyhow be a good example from the right source.

3. No ; undersized fish are by no means only sold in England, but also find a market in Sweden, Denmark, and Germany.

4. With regard to the enactment of a larger mesh for the trawl, the results of the experiments carried out under the auspices of the Fishery Board for Scotland, appear to me to point unequivocally to its desirability.

At pp. 157—210, of the Eighth Annual Report, the subject of the capture of undersized fish is very exhaustively treated ; and at page p. 182, you will find a description of the trial of nets with various meshes following in quick succession over the same ground, the result of which showed beyond doubt that with the larger mesh fewer young fish were captured. I am, of course, fully aware that the mesh contracts very considerably, when moving through the water at a great speed, but hardly to such an extent as to entirely defeat the object of the larger mesh.

5. It is likewise beyond question that the sorting out and returning of the undersized fish would be a most beneficial proceeding. At the same time I am of opinion, that too much should not be left to the men themselves, since they have scarcely time to do this extra work with sufficient method for it to be permanently efficacious. We should not then trust too much to the spontaneous and independent action of the men. It is true that we have (and doubtless, you too) a certain proportion of fishermen with sufficient common sense to see the necessity of protecting the young fish ; and yet not one of them would ever think of setting the example of such protection, unless compelled by legislation or similar means. "We cannot," they say, "take the lead, for we should certainly be the losers." They must *all*, therefore, be compelled to abstain from such fishing, or I anticipate certain failure. For these and other reasons, I am convinced that the prohibition of the landing of undersized fish and the introduction of a larger mesh for the nets, are as yet the only measures worth consideration.

With best regards.

Mr. F. G. Afalo.

Yours faithfully,
(signed) Professor Dr. Heincke.

APPENDIX No. 13.

PAPER handed in by the *Chairman*.Fisheries Office, Dublin Castle,
17 July 1893.

Dear Sir,

As the Howth herring fishing was gone into at some length in my examination I think it may be well that the following table, extracted from our Report for 1890, should be at your service.

"At Howth, once a celebrated place for its herring fishery, it has been going down since 1874, as may be seen from the following table :—

In 1874 there were landed at Howth, 101,405 mease, producing 101,518 £.				
" 1875	"	"	67,371	" 90,502
" 1876	"	"	86,910	" 116,613
" 1877	"	"	65,326	" 91,456
" 1878	"	"	68,060	" 80,694
" 1879	"	"	20,534	" 26,263
" 1880	"	"	16,783	" 22,545
" 1881	"	"	5,485	" 9,569
" 1882	"	"	12,277	" 18,033
" 1883	"	"	11,115	" 17,333
" 1884	"	"	6,249	" 11,935
" 1885	"	"	2,374	" 3,811
" 1886	"	"	9,585	" 5,270
" 1887	"	"	9,082	" 6,832
" 1888	"	"	3,311	" 8,274
" 1889	"	"	8,527	" 5,485
" 1890	"	"	3,825	" 3,678 "

Besides an actual falling off in the supply of fish, such as I stated in my evidence, there are no doubt some trade questions involved, the migration of buyers, according to the requirements of their business, being the most important and one of the most difficult to deal with.

I remain, &c.
(signed) *Wm. Spotswood Green.*

APPENDIX, No. 14.

PAPER handed in by Mr. Mitchell.

STATEMENT submitted to Public Meeting of Fishermen and others, held in Peterhead on 25th January 1893.

Season extending from 1st October to 30th March.	Number of Boats.	Number of Men.	Number of Cwt. Haddock.	Average Price per Cwt. each Season.	Total Value of Haddock.	Gross Earnings for each Man.			Total Gross Earnings each Man.	Outlay by each Man.			Nett Earnings for Six Months each Man.	Deduct Fee and Board of Servants.	Nett Sum left each Man for Himself and Family.	Nett Income per Week each for each Man and his Family.
						Of Haddock.	Of Codling, &c.			Bait and Baiting, Tare and Wear.	Upkeep of Boat.	Total Outlay on Fishing.				
1887-78 -	78	827	33,512	10 -	£ 16,756	£. s. d. 31 15 10	£. s. 3 -	£. s. d. 34 15 -	£. s. d. 34 15 -	£. s. 15 10	£. s. 1 12	£. s. 17 2	£. s. d. 17 13 7	£. s. 0	£. s. d. 17 13 7	£. d. 12 7
1888-79 -	101	535	33,363	10 -	16,681	31 3 7	5 -	36 3 7	36 3 7	16 -	1 14	17 14	18 9 6	3 12	15 17 6	12 2
1889-90 -	116	600	44,754	9 -	20,139	33 11 3½	4 -	37 11 3½	37 11 3½	18 -	1 16	19 16	17 15 3	3 -	14 15 3	11 4
1890-91 -	118	611	49,361	8 3	20,320	33 5 2	2 10	35 15 2	35 15 2	18 10	2 -	20 10	15 5 2	3 10	11 15 2	9 -
1891-92 -	121	626	37,678	11 -	20,722	33 2 -	2 -	35 2 -	35 2 -	19 -	2 -	21 -	14 2 -	3 15	10 7 -	8 -
1892-93 -	127	659	For Three Months. October to 1st January. 8,062	11 6	4,635	7 - - -	1 10	8 10 -	8 10 -	8 10	1 -	9 10	£. 1 at debit.	-	-	-

* In consequence of the increased number of lines to be baited, the men have been compelled to employ a female assistant, and the figures in this column are those given to me by the deputation from Fishermen's Committee who assisted in the compiling of this Statement.

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I N D E X.

[*N.B.*—In this Index the *Figures* following the Names of the Witnesses, and those in the Analysis of Evidence of each Witness, refer to the Questions in the Evidence; the *Figures* following *App.* refer to the Pages in the Appendix; and the Numerals following *Rep.* to the Pages in the Report and Proceedings of the Committee.]

A.

ABERDEENSHIRE. Trawling fleet of ten vessels managed by witness, off the Aberdeenshire Coast, comprising ten vessels, about 100 feet in length and twenty feet in breadth, *Pyper* 6442-6448. 6629-6636—Remunerative nature of the industry; estimate that the total take last year was worth 173,000 *l.* of which 70,000 *l.* was for flat fish, *ib.* 6449-6452—Particulars as to the fishing grounds of the trawlers; denial that Aberdeen Bay has been fished out, *ib.* 6464-6476. 6597-6599.

Details respecting the diminution of boats at several small places along the coast; belief that a good many men have moved to Aberdeen on account of the market, as the line-fishing produce has greatly increased there, *Pyper* 6488-6492. 6552-6560 6600-6602. 6613-6626—Evidence showing the importance of the trawling industry to Aberdeen; employment of 1,600 hands in trawling and curing, *ib.* 6513-6517—Insufficiency of the fishing harbours on the coast, *Duthie* 7256-7259.

See also *Harbours. Herring Fisheries. Scotland.*

Abram, L. (Analysis of his Evidence.)—Is a stake-net fisherman near Southport; catches flukes principally, and uses a net with a seven-inch mesh, 5693-5700.

Evidence respecting the weight of a good catch; with the seven-inch mesh there would be very few small fish amongst them, 5701-5710—Belief that the take of fish has not varied much during the last twenty years, 5711-5714.

Opinion that the regulation of the size of the mesh is beneficial, but that any further legislation is unnecessary, 5715-5720—Suggestion that the shape of the stake-net for shrimps might, with advantage, be altered, 5725-5728.

Aflalo, Frederick G. (Analysis of his Evidence.)—Has regularly attended the meetings of this Committee, and has forwarded for its perusal some correspondence (*App.* 403) between himself and the Italian officials and the Director to the Marine Biological Institute of Heligoland, 5943-5942.

Statement as to the improbability of the German Government taking any part in international legislation, especially in regard to the closing of certain areas, 5943-5946. 5958—Belief that if England adopted a size limit for the landing and sale of fish, Germany would ultimately follow, 5957, 5958.

Evidence respecting the ready sale for small flat fish at Hamburgh and the Baltic ports, 5947-5954. 5965-5968—Information as to the number of fish that would probably die on being returned to the sea; estimate that in the Baltic, owing to the hard bottom and the shortness of the haul, only three out of a hundred die, 5955-5957.

Alward, G. L. (Analysis of his Evidence.)—Is a member of the executive of the National Sea Fisheries Association; has a lifetime experience of the fishing industry, and has taken an active part in the present agitation, 204-206. 309-311. 358.

Statement that the trawl-fishing industry on the Humber and at Grimsby dates from the year 1840 when it was commenced by fishermen from Brixham and Torquay, 207-210—Information as to the rapid growth of the fishing industry at Grimsby; reference to table showing the increase since 1878 in the number and tonnage of vessels, both steam and sailing, 211-216. 302-308. 349. 410-412. 418-420—Estimate that about 30,000, or one-half of the population of Grimsby, are interested in the fish industry, 217, 218.

Opinion that the average size of the vessels of the present day is nearly double that of the year 1840; 219-222—Statement that all the masters and mates of vessels from 0.93. 372 twenty-

Alward, G. L. (Analysis of his Evidence)—continued.

twenty-five tons and upwards are certificated men, 223, 224—Evidence respecting the increased size of the trawl and other appliances, 225, 226. 312. 350, 351.

Examination in detail as to the locality of the best fishing grounds in the North Sea; conclusion that the principal place where under-sized fish abound is near Heligoland, 229-233. 271-275. 283-287. 314-316. 327-330—Estimated catch of fish per vessel in 1875 about 80 cwt. of soles and prime fish, 550 cwt. of plaice, and 1,000 cwt. of haddock, 234-236—Statement that notwithstanding the increase in the number of vessels and the improvement of appliances the annual catch per vessel has decreased enormously; details and figures in support of this assertion, 237-257. 317-324. 352-355. 421-424.

Opinion that the falling off in the product of the fishing is due to the increase of vessels and to the immense capture of immature fish, 258-263—Evidence strongly in favour of the resolution passed by the National Sea Fisheries Associations advocating the prohibition of the landing and sale of immature fish; belief that this course rather than the prohibition of capture would be most effectual, 264-268. 326. 376-380—Conclusion that any legislation to be thoroughly effective should be on an international basis, 269, 270. 296. 331. 347, 348.

Suggestion that the limits of the fishing areas might be altered; opinion that in certain places where immature fish are generally to be found restrictions should be placed on the fishing for nine months in the year, 276-282. 331-337. 416, 417—Recommendation that immature fish be thrown into the sea after being caught; opinion that a great quantity would live provided that they were so returned within a reasonable time, 288-295. 339, 340.

Confidence of witness as to the success that would attend fish propagation by artificial means; information respecting the fish nurseries at Grimsby, 299-301—Reference to the diversity of opinion existing between the fishermen of the East and South Coasts relative to the minimum size of fish that should be legally saleable, 341—Information respecting the minimum sizes for sale that were fixed upon by the various conferences; general view that anything under ten inches should be regarded as immature, 342, 343—Opinion that the minimum sizes fixed upon by the Belgian Government are too small to be of benefit, 344-346.

Reference to the action of the North Sea Fisheries District Committee in stopping trawling within certain areas; dissatisfaction of the Flamborough Head trawlers with this restriction, 359-365—Belief that the scientific teaching as regards the capture of immature fish and as to propagation would be extremely useful, 366-373—Opinion that Filey would be an excellent place for the institution of an artificial propagating ground, 374, 375.

Information as to the experiments made with trawling nets of a larger mesh than usual; capture of immature fish diminished by their use, 381-385. 393-397. 405, 406—Definition of the term immature or undersized fish as being in the case of brill, lemon soles, plaice, soles, and turbot, anything in size under twelve, eleven, ten, ten and twelve inches respectively, 398-404.

Suggestion that three courses should be taken to protect the fish, viz.: the prohibition of certain areas, a close time for all fish, and the propagation of fish artificially, 425-448—Admission that the proposed measures would be very difficult of enforcement, 449-458.

[Second Examination.]—Denial that a large proportion of the so-called immature fish are dabs, 895, 896—Concurrence with the estimate that about 90 per cent. of the fish thrown overboard would be lost, 897, 898—Qualification of the statement that with shorter hauls more fish would live on being returned to the sea; detailed explanation on this point, 902.

Anchovies. Attention paid by the Marine Biological Association to the habits of anchovies with a view to the establishment of an anchovy fishery, *Lankester* 3885.

Anderson, Captain Absolom. (Analysis of his Evidence.)—Is chairman of the Whitstable Oyster Company, and a nautical assessor of the Board of Trade, 2468-2473.

Opinion that oysters imported into England during the open season and laid down should not be sold in the close season, as owing to their being on the point of spatting they are unfit for human food, 2474. 2477-2482. 2541, 2542. 2544-2546. 2551-2561—Opposite view to this opinion held by many oyster merchants, 2475, 2476—Belief that the sale of oysters in such a condition benefits neither the grounds nor the public generally, 2482. 2547. 2551—Admission that the company represented by witness sells such oysters during the close time; they are obliged to do so or would lose their customers, 2484-2488.

Evidence respecting the characteristics by which foreign and relaid oysters can be distinguished from those bred on home grounds, 2489-2491. 2509, 2510—Belief that foreign oysters will under favourable climatic conditions, breed in English grounds, as they

Anderson, Captain Absolom. (Analysis of his Evidence)—continued.

they spat at the same seasons as the British oyster; the conditions for breeding have not been favourable for the last thirty years, 2492, 2493. 2508. 2521-2526. 2548, 2549. 2562 *et seq.*

Information as to the great sale of foreign oysters during the close season, 2494-2498. 2538—Serious diminution and depletion of the native oyster beds in this country, 2499, 2500. 2518-2520. 2571—Suggestion that the close season should be made absolute, and should apply to all oysters whatsoever, 2501-2504. 2507, 2508. 2511. 2539-2541.

[Second Examination.]—Opinion that certain oysters referred by Mr. Oatley cannot legally be sold during the close season in England, 2657, 2658—Disagreement with statement that it is impossible to distinguish between British and foreign oysters after the second year, 2659-2661.

ARTIFICIAL PROPAGATION (FISH HATCHERIES):

1. *General Concurrence of Evidence as to the Value of Fish Hatcheries.*
2. *Suggestions as to the Localities for Hatcheries and the Conduct of the Operations.*
3. *Fish Hatcheries in Norway.*

1. *General Concurrence of Evidence as to the Value of Fish Hatcheries:*

Confidence of witness as to the success that would attend fish propagation by artificial means; information hereon respecting the fish nurseries at Grimsby, *Alward* 299-301—Concurrence in the view that the establishment of hatcheries would be of great benefit to the fisheries, *McIntosh* 3498-3501. 3581-3593; *Fulton* 3714-3717—Limited usefulness attached to the hatching of fish, though valuable to some extent, *Lankester* 3886, 3887.

Decided approval of the artificial rearing of young fish; satisfactory results from experiments by witness on the subject, *Cunningham* 4172, 4173. 4192-4196. 4244-4248—Importance attached to fish hatcheries and to the rearing as well as the production of young fish; reference hereon to proposed experiment at Port Erin (Isle of Man), for the benefit of the Lancashire fisheries, *Herdman* 4597-4603. 4627. 4636-4644.

Opinion that hatcheries would require to be established on a very large scale if the supply of fish is to be materially benefited, *Green* 6316-6320—Advantage of the establishment of hatcheries for white fish as a remedy for over fishing, *Mitchell* 7689-7695.

2. *Suggestions as to the Localities for Hatcheries, and the Conduct of the Operations:*

Opinion that Filey would be an excellent place for the institution of an artificial propagating ground, *Alward* 374, 375—Proposed establishment of hatching places at Dunbar, St. Andrews, and Aberdeen, *McIntosh* 3574-3580—Opinion that the fjords of Norway are suitable for hatching, as would also be creeks with concrete walls, *ib.* 3629-3631.

Practicability of enclosing certain portions of the sea for the establishment of such nurseries; estimate that the cost of the experiment suggested would be about 1,500 *l.*, *Fulton* 3718-3729—Suggestion that one fish hatchery should be started at Dunbar, *ib.* 3750, 3751.

Steps taken in Norway, Italy, and France, as well as in the United States, in the establishment of hatcheries, witness strongly advocating that places be selected along the British coast for the rearing and maturing of young fish of various kinds, *Günther* 3908-3917. 3919-3921. 3926-3939—Greater facility in hatching and artificially rearing some fish than others, *ib.* 3926-3929.

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Dissent from the view that young fish can be reared only by the use of natural food, *Cunningham*, 4246—Expediency of hatching and protection going hand in hand, *Dannevig* 4328.

Explanations on the subject of fish hatching, witness referring to the importance, not only of producing, but of rearing the fish; advantage of large enclosed areas for this purpose, as in Norway, this being a great difficulty round the English coasts; *Calderwood* 4386-4393. 4399-4406. 4411-4417. 4426. 4456-4462—Contemplated use of artificial as well as natural food in the hatcheries, *Herdman* 4601-4603. 4616, 4617.

- 3 *Fish Hatcheries in Norway:*

Employment of witness by the Norwegian Government to superintend fish hatching operations on the Norwegian coast; these comprising the rearing of cod, flounders, dabs, and

ARTIFICIAL PROPAGATION (FISH HATCHERIES)—continued.**3. Fish Hatcheries in Norway**—continued.

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Austin, Captain Geoffrey L. (Analysis of his Evidence.)—Is the principal proprietor of the Seasalter and Ham Oyster Company at Whitstable, 2662, 2663.

Opinion that the French oysters imported by witness spat in English Waters, 2664-2666.—Impossibility of distinguishing between the progeny of foreign oysters and that of natives; exception made in the case of Portuguese, which are easily distinguishable, 2667. 2705-2709.—Statement that French oysters are laid down in March or April, and sold during the summer months as English oysters; denial that this inflicts any injury upon the English beds, 2668, 2669. 2685, 2686. 2689. 2733, 2734.

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Contention that close times for oysters should be altogether abolished, as so far from improving matters they are of little avail and inflict great injury on an extensive industry, 2691-2695. 2697-2701. 2722-2725. 2738, 2739. 2759-2762.—Difficulty of breeding oysters except by artificial means and enclosed waters, 2702-2704. 2747, 2748.—Information respecting the scarcity of oyster spat; statement that there has been no considerable fall of spat since 1859; 2716-2721. 2726, 2727. 2741-2747.

Ayrshire. Evidence to the effect that the chief fishing on the Ayrshire coast is for herrings and cod, there being a summer and a winter herring fishery; considerable falling off in the winter herring fishing of late years, *McKenna*, 6856-6866. 6918-6921. 6929, 6930.—Statement that the local method of fishing in winter is by means of a single wall-net trammel net about 240 fathoms long; use of the seine net by some of the boats that come from the Argyleshire coast, *ib.* 6867-6876.

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B.

Balls, Robert. (Analysis of his Evidence.)—Is a shrimper and herring catcher of fifty years' experience, living at Great Yarmouth, 5420-5423.

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Barber, Joseph Henry. (Analysis of his Evidence.)—Witness, who is assistant secretary of the National Sea Fisheries Protection Association, produces samples of the immature fish that are being sold in various markets, 601-608.

Barber, Sydney. (Analysis of his Evidence.)—Witness, who is secretary of the Oyster Trade Committee of the Fishmongers' Company, and is engaged in the oyster trade at Brightlingsea and Billingsgate, submits statement, prepared by the Committee, on the subject of the fisheries and the proposed prohibition of sale during the summer months, 2803-2808.

Grounds for contention that the public do not suffer in any way by the sale of oysters during the months of June, July, and August, 2810-2816.—Objection to a close time

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Barber, Sidney. (Analysis of his Evidence)—continued.

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Belgium. Reference to this action of the Belgian Government in prohibiting the sale of undersized flat fish, *Trowse* 29-32. 67-71—Impression that the sizes of fish recommended by the Fisheries Protection Association as being proper for sale are practically the same as those allowed by the Belgian Government, *ib.* 90—Opinion that the minimum sizes fixed upon by the Belgian Government are too small to be of benefit, *Alward* 344-346; *Dawson* 2382-2385.—See also *Size Limit*, 3.

Berrington, Arthur Davies. (Analysis of his Evidence.)—Is Assistant Secretary to the Board of Trade; has charge of the Fisheries Department, and is Chief Fisheries Inspector of England and Wales, 2417, 2418.

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Statement that the international arrangements with regard to the North Sea have worked most satisfactorily, 2444—Opinion that there is no doubt that the fisheries in the North Sea for flat fish are seriously deteriorating, 2450.

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[Second Examination.]—Information respecting the enforcement of laws prohibiting the capture and sale of immature fish in Germany, Denmark, Holland, Belgium, and France; opinion that as regards sale such laws could be enforced in England, 2945-2949. 3035-3037—Grounds for conclusion that it is most desirable that the sale of all oysters, except those from Portugal and America, should be forbidden during the summer months; advantages which have already accrued through the application of the close season, 2950-2955.

Opinion that the unproductiveness of oyster spat is largely caused by over dredging, and is not wholly attributable to adverse climatic considerations, 2955-2957—Suggestion that the Sea Fisheries Committees should be entrusted with larger powers for the protection of the oyster fisheries; details of the powers which might be conferred upon these bodies, 2958, 2959. 3008—Statement that to a certain extent foreign oysters can be readily distinguished from natives; specimens produced in explanation, 2960-2962.

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Opinion that the fishermen generally are satisfied with their representation on the Sea Fisheries Committees, 2983-2986. 2999-3003—Universal demand that the expenses of fishery members should be paid, 2987-2989.

Information respecting the minimum sizes at which soles spawn in the North Sea and in the Southern waters respectively; the outcome of investigation shows that there is but a trifling difference, 2990, 2991—Impossibility of carrying out any law prohibiting the capture of immature fish; opinion that the prohibition should extend to the landing and sale of undersized fish, 2992-2995. 3038—Conclusion that the reservation of certain areas within territorial waters would be effectual in protecting shell fish only, 2996. 3039. 3044.

Opinion that the powers now possessed by the Sea Fisheries Committees are quite sufficient for the regulation of fishing in territorial waters, and need not be increased except in regard to shell fish; information respecting the Act of 1883 by which the long shore fishermen can be protected against encroachment, 3004-3026. 3047. 3097-3101

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—Suggestion that each of the district committees should appoint officers to regulate the coast fisheries; belief that this would be more effective than would the institution of a sea police force raised by the Board of Trade, 3018, 3023, 3102-3112.

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[Third Examination.]—Statement that the English Fishery Boards can exclude strangers only when they use different instruments, 6327-6330.

[Fourth Examination.]—Explanation that it would be in the power of the district committee to direct that lines should only be laid in certain places, 6840, 6841.

Billingsgate Market. Information respecting the quantity of immature fish destroyed as unsaleable at Billingsgate; estimate that no fewer than 721 tons have been destroyed on this account during the last ten years, *Towne* 57-66, 140-144.

Official letter respecting the sale of immature fish in the market; suggestions for the mitigation of the evil, *App.* 401.

BOARD OF TRADE RETURNS:

Concurrence of evidence as to the unreliable character of the Board of Trade fishery returns, *Little* 1400-1409; *Saunders* 1504-1508; *Hame* 1627-1630—Conclusion that as regards the actual weight of fish the Board of Trade Returns are more reliable than those of the railway companies, *Dawson* 2323-2328, 2350-2353.

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Grounds for conclusion that the returns of fish caught are far from complete; suggestion that each fisherman should give particulars of his catch to the harbour master or some other responsible person, *McIntosh* 3553-3558—Limited value attached to the Board of Trade fishery statistics, there being no returns showing where the fish are caught or the habitat of the crews of the boats; suggestions for ascertaining and publishing information on these points, *Lankester* 3819-3824, 3869, 3870—Want of further information in the Returns, *Calderwood* 4474-4476—Dissatisfaction with the statistics taken by the Board; belief that there would be no difficulty in getting accurate returns if a proper expenditure were allowed, *Kent* 8039-8046.

Great importance attached by the Committee to the statistics available during the present inquiry, *Rep.* iii—Conclusion that any steps which may be taken to increase the trustworthy character and the fulness of official statistics would amply repay the expenditure which may be necessary to ensure the improvement, *ib.*

Brady, Sir Thomas. Regret expressed by the Committee that owing to the illness of Sir Thomas Brady they have lost the advantage of the important evidence expected from him as regards the Irish sea fisheries, *Rep.* iii.

Bridlington. Examination as to the nature of the fishing at Withernsea and from the Spurn to Bridlington; it consists principally of crabbing, with a little cod-fishing at the end of the year, *Parkinson* 6791-6796, 6846-6848—Complaints of the fishermen as to the great damage done to the lines by the fifty-ton Grimsby and Yarmouth smacks, *ib.* 6797-6807, 6831-6838—Falling off in the take of fish owing to the large hauls made by the smacks, *ib.* 6808-6812.—See also *East Coast.* *North Sea Fisheries.*

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Bristol Channel. Belief that steam trawlers have done great injury to the young fish in the Bristol Channel, *Dyer* 4913-4916.

Brixham.

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Brixham. Statement that there is no falling off in the quantities of fish caught off Brixham, with the exception of hake and mullet, *Saunders* 1469-1471. 1474. 1521, 1522—Belief that Brixham is the oldest trawling port in the kingdom, *ib.* 1472, 1473—Willingness of the Brixham men to have a close time established, *Dyer* 4913-4916—See also *Devonshire. South Coast.*

Bruce, James. (Analysis of his Evidence.)—Witness is a fisherman at St. Combs; has been engaged in fishing for the last fifty years, and represents the majority of the fishermen and curers of his district, 7114-7123. 7144, 7145. 7198-7203.

Statement that the herring fishery is the principal industry in which the people of Fraserburgh, St. Combs, &c., are engaged all the year round, with a little line fishing in winter, 7117-7119—Grounds for disapproval of a close time for herrings; opinion that the term "immature" is not applicable to herrings, 7120 *et seq.*; 7181-7197. 7207-7215.

Necessity of lower rates and better facilities for sending the herrings to the home markets, the present railway rates being a much-felt grievance, 7123, 7129. 7211—Impossibility of fixing a close time, as the herrings come to maturity at different times on different parts of the Scotch coast; variation also of the time from year to year, 7130-7135.

Belief that a close time would seriously affect the means of livelihood of a large number of fishermen, putting the Scotch fishermen at a disadvantage as compared with foreign fishermen, 7136-7145—Great diminution of flat-fish off St. Combs since the trawlers have come there; approval of the closing of the Moray Firth to trawlers, 7146-7154. 7204-7206.

Certainty that the want of harbours has hindered the development of the herring fishing, especially on the north-east coast of Scotland; cordial approval of the Fishery Board being empowered to enter on a general scheme of improving the fishery harbours, 7155-7169. 7179, 7180—Approval of the proposed new fishery district committees under the Sea Fisheries Regulation Bill, 7175-7178.

Bye-Laws. Abstract of the bye-laws in force in the several fishery districts on 1st May 1893, *App.* 381.

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Caithness-shire. Witness, who is honorary secretary of the Caithness Fishermen's Society, represents their views; evidence on their behalf, *Sutherland* 7562 *et seq.*—Unanimous feeling among the Caithness fishermen that trawling should be abolished and made illegal; statement that since trawling began the Caithness coast is perfectly valueless as a fishing ground, *ib.* 7565 *et seq.*—See also *Scotland.*

Calderwood, W. L. (Analysis of his Evidence.)—Considerable attention given by witness to the subject of the sea fisheries, there being a decided depletion in the North Sea and elsewhere, which demands some remedy, 4346-4349—Opinion that any prohibition upon the landing or sale of fish below a fixed size should apply equally to all parts of the coast, and should be limited to turbot, brill, and sole, 4350-4353. 4357-4359—Belief as to the impracticability of working a close time for certain large areas, 4354-4356.

Grounds for the conclusion that plaice and lemon soles should be exempted from the proposed restrictions as to size, 4358, 4359. 4365-4369. 4429, 4430. 4492-4496—Suggestion that if plaice, lemon soles, turbot, brill, and soles be comprised within a size limitation, the limit should vary in different districts; prohibition proposed in such case upon landing as well as sale, 4359-4364. 4434—Advocacy of the limits of eighteen, sixteen, and twelve inches for turbot, brill, and soles, respectively, all round the coast, as this would enable these fish to spawn before they are captured, 4367-4374. 4425-4436. 4454, 4455. 4467-4472.

Doubt as to the practicability of protection by restricting the size of the mesh of the net, 4375. 4497, 4498—Exceptions taken to any general prohibition of trawling in territorial waters, as on the east coast of Scotland, 4376-4380. 4421-4424—Approval of a prohibition upon shrimp trawling where it is found to be very destructive to young fish, 4381-4383—Obstacles to the satisfactory working of a close time in special areas, 4385. 4473.

Explanations on the subject of fish hatching, witness concurring with Mr. Dannevig as to the importance not only of producing but of rearing the fish; advantage of large enclosed areas for the purpose, as in Norway, this being a great difficulty round the English coasts, 4386-4393. 4399-4406. 4411-4417. 4426. 4456-4462—Suggested supervision of the fishing boats, so as to ensure undersized fish being at once returned to the sea, 4395-4398. 4510-4519—Depletion of the Scotch fisheries attributed to the large increase of trawling; reference hereon to the prohibition imposed by the Scotch Fishery Board in 1889 as being too extensive, 4418-4424. 4477-4491.

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Calderwood, W. L. (Analysis of his Evidence)—continued.

Exception taken to statements from Plymouth and Brixham that the local fisheries are successful, and that legislation is not required, 4437-4453—Doubt as to fish maturing more quickly in the warmer waters; increased growth in the North Sea, 4463-4466—Want of further information in the Board of Trade Returns, 4474-4476.

Approval of protection against trawlers where there are nurseries for young fish more than three miles from the land, 4487-4491. 4499-4501. 4528-4533—Advantage further claimed for the enlarged size limits proposed for turbot, brill, and soles, though entailing some obstacle to the fishing industry, and though objected to by the fishermen, 4502-4509. 4520-4527. 4534-4538.

Capital (Over-fishing.) Grounds for the conclusion that the introduction of too much capital into the fishing industry is opposed to the best interests of the fishermen, *Hame* 1598-1607. 1643-1656. 1703-1718. 1726 *et seq.*

Casely, William. (Analysis of his Evidence.)—Is a representative of the fishing industry of Ramsgate, and is chairman of the local association; has been engaged for forty years in the fish trade, 1737-1740.

Objection to any legislative interference in the fishing industry, on the ground that it is uncalled for, and that there is no falling off in the quantity of the fish caught, 1741-1743. 1748. 1750. 1754. 1791-1794. 1806-1809—Information respecting the extensive fishing grounds worked by the Ramsgate fishermen; they extend as far north as Lowestoft, 1744-1747. 1781, 1782—Impracticability of the suggestion that the mesh of the trawling nets should be so enlarged as to admit of no possibility of small fish being caught, 1748. 1766-1768.

Opinion that protection by international law should be applied to those grounds where immature fish are caught in any quantities, 1749-1754. 1803. 1805. 1810-1820—Contention that injustice would be done to fishermen in certain waters by the adoption of a hard-and-fast limit of size, as some fish are more mature than others of equal size, 1755-1761—Conclusion: that if legislation be applied, limits of ten inches for brill and turbot, and eight inches for soles and plaice would not be unreasonable, 1762, 1763.

Assertion that the vessels of Hull and Grimsby are too large to be worked profitably, 1769-1779—Reiteration of statement that there is no falling off in the quantity of the fish caught; admission that a slight deterioration in size is noticeable, 1783-1785—Grounds for the conclusion that fish do not change their localities, 1786—Statement that the catch of soles has decreased by one-half, 1787-1790.

Central Authority. Reference to the recommendations of the Trawling Commission in 1885 in favour of a central authority for the supervision and control of the fisheries, *Rep. v.*—See also *English Fishery Board.*

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CLOSE TIME:

1. *Objections thereto.*
2. *Approval of a Close Time, subject to certain Limitations.*
3. *Conclusion of the Committee.*

1. *Objections thereto:*

Opinion that close times would ruin the fishing industry, but limits of areas might with advantage be drawn, *Toozes* 545-560. 569-573. 588-590—Impracticability of the suggestion that a general close time should be enforced, *Jeffs* 643-646. 731, 732—Objection to close times on the ground that in certain localities the fish are so large that any restriction is unnecessary, *Simpson* 782, 783.

Concurrence of objections to the institution of a close season, *Roach* 840, 841; *Hame* 1689; *Balls* 5456—Difficulty in getting all fishermen to agree to a stated close time, *Fulton* 3788-3791.

Obstacle to fixing a close season on account of the long period of the year over which spawning extends; objection also to the consequent stoppage of trade, *Holt* 3964, 3965. 3995-4002—Limited advantage by fixing short close times at different seasons for different kinds of fish, *ib.* 4109-4112—Difficulty in the satisfactory working of a close time in special areas, *Calderwood* 4354-4356. 4385. 4478.

2. *Approval of a Close Time, subject to certain Limitations:*

Suggestion that the limits of the fishing areas might be altered, and that in certain places where immature fish are generally to be found restrictions should be placed on the fishing for nine months in the year, *Alward* 276-282. 331-337. 416, 417—Proposal

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CLOSE TIME—continued.**2. Approval of a Close Time, subject to certain Limitations**—continued.

posal that there should be a close time, or that areas should be defined by international agreement, and that the Naval authorities should enforce their observance, *Little* 1305-1313, 1351, 1352, 1372-1375, 1435, 1447—Conclusion that a close time for ground-nets would be beneficial, but that it is not necessary as regards trawling, *Saunders* 1488-1490.

Obstacles to a close time that should extend from January to April; undue interference with employment, *McIntosh* 3467-3477—Conclusion that great damage is done by the destruction of ripe fish, witness advocating the institution of a limited close time and other measures, *ib.* 3516-3518—Advantage if a close season could be applied to particular fishing grounds where spawning is going on, *Herdman* 4592-4596, 4604-4606, 4627-4634.

Absence of necessity for any close time for white fish so far as line fishermen are concerned; proposal that February and March should be a close time for trawlers, *McNaughton* 6987-6992, 7092—View of witness that the Fishery Board for Scotland might very well regulate the close time; opinion that two different periods would be sufficient for the east coast of Scotland, *ib.* 7017-7023.

3. Conclusion of the Committee:

View of the Committee that a close season cannot be justified except to meet a pressing necessity for the protection of the particular fish to which the close time is to apply; they do not therefore recommend any alteration of the law in this respect, *Rep.* vi.

See also *Herring Fisheries*, 2. *Oysters*, 1. *Prohibition of Areas*. *Soles*.

Cod. Conclusion of the Committee as to there being no important diminution of the numbers of cod and haddock, and as to special legislation not being required as regards these fish, *Rep.* iv.

See also *East Coast*. *North Sea Fisheries*.

Cornwall. See *Devonshire*. *South Coast*.

County Councils. Approval of the suggestion that bye-laws should be enforced by the local county council, *Wright* 5687-5692.

Crabs. Statement that crabs, as from the Spurn to Withersea, are small and scarcer than formerly, owing to the large numbers caught by the Sherringham yawls, which also carry away the crab spawn to their own grounds, *Parkinson* 6817-6824—Reference to the advice of the district fisheries committee to place any such case in the hands of the police, *ib.* 6825-6827.

Suggestion that in order to prevent crabs getting scarce, he-crabs under six inches should not be taken, and white she-crabs should not be killed for bait, *Tall* 7859-7885.

Crawford, Robert. (Analysis of his Evidence.)—Witness, who comes from Yarmouth, has had thirty-six years' experience in fishing, six years as hand and twenty-seven years as a skipper; has also been commodore of three fleets, and has fished principally from the Hook of Holland to the Texel and Heligoland, 6649-6655.

Opinion that there is a great decrease both in the number and size of flat fish; belief that it is caused by the great destruction of immature fish off the Dutch Coast, especially from March to June, 6656-6663—Information as to the damage done by the steam trawlers, these destroying more fish in proportion than the sailing trawlers, 6663-6670.

Evidence as to the undesirability of a ten-inch limit for soles, 6671-6678—Benefit to be derived by increasing the three-mile limit on the Dutch shore from February to June, both for sailing and steam trawlers, 6680-6685—Opinion that no harm is done to immature fish by shrimpers, 6686-6689—Desirability of limiting the length of a haul, 6690-6697.

Croucher, William. (Analysis of his Evidence.)—Witness, who is a fisherman from Lymington, explains that the fishing generally carried on at Lymington is trawling, shrimping, and prawning; belief that the falling off in the number of fish the last year or two is due chiefly to the weather, 7753-7768, 7777-7787—Agreement with the statement that the big liners going up and down the Solent, and the firing of heavy guns, do great harm to the fishing, 7770-7776.

Cunningham, Joseph Lomas, M.A. (Analysis of his Evidence.)—Experience of witness since 1887 as one of the assistant naturalists of the Marine Biological Association, his field of work being the South Coast, near Plymouth, 4124-4127.

Considerable falling off in the catches of soles on some of the fishing grounds off the coasts of Devonshire and Cornwall, whilst it is said that the supply of lemon soles has increased 0.93.

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Cunningham, Joseph Lomas, M.A. (Analysis of his Evidence)—continued.

increased, 4128, 4129—Doubt whether it is expedient to interfere by legislation with the fishing of trawlers in extra-territorial waters, though some regulations may well be applied by local committees to territorial and shallow waters with reference more especially to the destruction of undersized fish, 4130 *et seq.*

Information as to the extensive destruction of small fish by seines and shrimpers in the neighbourhood of Brixham and elsewhere on the South Coast and as to the steps proposed by the Devon Committee for restricting fishing by trawlers in territorial waters, 4136-4140. 4225-4239—Explanation of witness' views in favour of the imposition of a size limit (on the South Coast) as regards plaice, soles, and turbot, and the enforcement of penalties for the destruction of unmarketable fish; consideration of objections thereto, 4141 *et seq.* 4174-4176. 4229-4238.

Doubt as to the practicability of regulating the size of the mesh of nets, 4161—Disapproval of any restriction as to round fish, 4162—Disapproval also of any restriction on the size of lemon soles, 4164. 4176—Obstacle to a close season for beam trawling in the open sea, 4165, 4166—Very full powers desirable on local and special district committees as regards territorial waters; that is, subject to the veto of the Board of Trade, 4167-4169. 4184-4187—Difficulty in applying any regulations for the preservation of spawning fish, 4170, 4171. 4192, 4193.

Decided approval of the artificial rearing of young fish; satisfactory results from experiments by witness on the subject, 4172, 4173. 4192-4196. 4244-4248—More detailed statistics required as to the productiveness of particular grounds; suggested returns by each boat whether large or small, 4177-4180. 4220. 4224—Considerable difference between drift net fish and bottom and trawled fish as regards the question of supply; increase in the latter case, 4177.

Obstacles to any regulation for enforcing the return of immature fish to the sea when caught by trawlers in extra-territorial waters, 4181-4183—Ignorance of fishermen as to fish, their instruction by means of lectures being important; steps already taken to this end, 4188-4191. 4240-4243—Reference to a paper by Mr. Holt showing the proportion of young plaice and young soles taken in shallow waters, 4197, 4198.

Explanation in connection with the distinction drawn between the South Coast and the North Sea fisheries as regards the restrictions proposed with respect to size, &c.; reference hereon to the extensive destruction by steam trawlers in the former case, 4199-4211—Size of mesh used by trawlers at Plymouth and at Brixham; opinion that fish too small for market are not taken with the six-inch mesh, 4212-4219. 4226-4228—Approval of an extension of the proposed bye-law of the Devon Committee to a uniform limit of three miles from the shore, 4239.

Cunningham, J. T. Letter from Mr. Cunningham, dated 21st June 1893, submitting suggestions for preventing the destruction of immature fish by British subjects within certain limits in the North Sea fishery grounds, *App.* 402.

Customs Department. Suggestion that the enforcement of the propositions made by witness should devolve upon the Customs, *Jex* 1989-1991.

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Dabs. Explanation that dabs do not attain large sizes, *Toozes* 483—Opinion that any restriction as to the capture of undersized fish might be extended to dabs, *ib.* 512-534—Statement to the effect that a very small quantity of dabs are ever caught, *Pickering* 851-853.

Denial that a large proportion of the so-called immature fish are dabs, *Alward* 895, 896—Dabs seldom found in the boxes of plaice except when received from Yarmouth or Lowestoft, *Wallis* 927-929.

Dannevig, G. M. (Analysis of his Evidence.)—Employment of witness by the Norwegian Government to superintend fish hatching operations on the Norwegian coast, these comprising the rearing of cod, flounders, dabs, and lobsters, 4249-4252—Private subscriptions obtained by witness for starting these operations, Government having subsequently given help; total present cost of about 500*l.* a year, contributed mainly by Government, 4253-4256. 4299, 4300. 4322.

Extensive falling off in the Norwegian coast fisheries, during the last twenty years, through over-fishing; reference especially to cod, flat fish, and mackerel, 4256. 4307-4314. 4323—Information in detail relative to the fish hatching and other operations under charge of witness, the practice in rearing the young cod and other fish, and the extent to which the waters have been re-stocked and the fisheries replenished, 4257 *et seq.*—Advantage of the fjords as natural rearing ponds; relative advantage of bays and lochs on the English and Scotch coasts and in the Isle of Man, 4277. 4281, 4282. 4301-4306. 4318-4321. 4343-4345.

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Dannevig, G. M. (Analysis of his Evidence)—continued.

Necessity of a thorough investigation of the North Sea fisheries and the condition of the spawning grounds, to be followed by international protective regulations, 4284-4289 4336—Importance of preventing the immense destruction of young fish by shrimp trawlers and by the small mesh seine used for eels, 4289. 4326-4328. 4331—Advantage of a prohibition not only upon the capture but the sale of immature fish; law about to be adopted in Norway on this point, 4324-4335. 4341, 4342—Expediency of hatching and protection going hand in hand, 4328.

Dawson, Robert Arthur. (Analysis of his Evidence.)—Witness is in charge of the business of the Lancashire Sea Fisheries Committee and has had great experience in the Lancashire fisheries, 2200-2206.

Statement that there is a great diminution in the quantity of soles and plaice now caught, 2207-2209. 2250. 2295-2297. 2349—Belief that the diminution referred to is due to the capture and sale of immature fish, for which there is a ready market; details in support of this opinion, 2213-2219. 2299. 2329, 2330. 2373—Proposition that the minimum size allowed for sale of all flat fish should be fixed at twelve inches, 2220-2223. 2286-2290. 2356. 2374, 2375. 2406. 2412.

Conclusion that in addition to prohibition of the sale or landing of immature fish there should be an alteration in the size of the mesh of the nets, 2224. 2345-2347. 2369. 2390, 2391—Opinion that under certain conditions very large per centages of fish would live if thrown back into the sea, 2225-2230. 2279-2282. 2291-2294. 2300-2308. 2370-2372.

Belief that for certain fish the fishermen generally would not object to the imposition of an eight-inch limit, 2231-2238. 2354-2358. 2382—Considerable destruction of fish under eight inches in length by ordinary trawlers and of fish varying from two to four inches by shrimpers, 2239-2244.

Difficulty of enforcing any regulation compelling fishermen to restore small fish to the sea, 2245, 2246. 2253—Importance of the restoration of small fish to the sea, as it appears from experiments that most of them live if so treated, 2247-2249. 2251, 2252—Advocacy of a close time during May and June for soles, 2254, 2255. 2386—Opinion that soles should be allowed to be caught from July to October and that then the six-inch mesh might be used, 2256-2258. 2269-2271. 2331-2334.

Information respecting the very large number of fishing boats on the Lancashire fishing grounds, 2259-2264. 2348. 2362-2365—Details of experiments made with different sizes of mesh; opinion that the seven-inch mesh should be used for plaice, 2265-2266. 2272. 2309-2321. 2341—Admission that a net with the seven-inch mesh would let the majority of soles weighing half-a-pound escape, 2267.

Opinion that power should be given to fishery officials whereby suspected vessels might be boarded although outside the territorial limit, 2275-2278—Belief that scientific lectures would be most beneficial to the fishermen, 2283-2285—Statement that as regards the actual weight of fish the Board of Trade returns are more reliable than those of the railway companies, 2323-2328. 2350-2353.

Opinion that the Belgian limit of size, viz., seven and one-fifth inches, is comparatively useless, 2382-2385—Denial that trawlers destroy the spawn of fish, 2392-2396.

Dead Fish. Reference to the theory that damage is done to live fish by the practice of throwing dead fish into the sea, *Towse* 148, 149—Opinion that the practice of throwing dead fish into the sea tends to drive the living fish from the neighbourhood, *Normington* 1128-1132—Belief that great damage would be done to the fishing grounds by throwing dead immature fish into the sea, *Little* 1418-1420.

See also *Immature, &c., Fish.*

Deep-Sea Fisheries. Experience of witness that the fish as a rule are larger in deep sea than they are in shallow waters, *Normington* 1242, 1243.

Departmental Committees (Local Inquiries.) Suggestion that the present inquiry might be supplemented by the appointment of small departmental committees which, by visiting various fishing centres around the coast, would give full scope to fishermen to bring forward any suggestions or grievances which they may have, *Rep.* iii.

Devonshire. Belief there has been no decrease in fish in the vicinity of Torbay, although the number of trawlers has doubled, *Dyer* 4863-4871. 4895. 4941-4944—Reference to the absence of steam trawlers round about Torbay as being the possible cause of there being no diminution in the quantity of fish, *ib.* 4896-4902. 4918, 4919.

Complaint relative to the constitution of the Devon Sea Fisheries Committee, the fishermen being over voted by the number of members who are not connected with fishing in any way, *Dyer* 4903-4909—Evidence as to there being certain areas where small fish abound, but that it is almost impossible to trawl in these places; prohibition of trawling close to the Devonshire coast, *ib.* 4929-4931. 4939, 4940.

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Statement that in the opinion of the fishermen of Torquay the quantity of fish has decreased, *Scott* 4953-4958—Evidence in regard to the fact that Torbay is a great breeding ground for fish; details as to the kinds of fish caught there, *ib.* 4959-4961. 4972-4977—Decrease of fish at Torbay attributable to the increase in the number of trawlers, which, notwithstanding the prohibition, trawl in the bay, *ib.* 4978-4984—Explanation respecting the contention between the hookers and the trawlers, *ib.* 4987-5000, 5009, 5010, 5015-5018.

Feeling of the Devon Sea Fisheries Committee in favour of the payment of the expenses of those of their members who are practical fishermen; belief that when the Committee is again appointed there will be no practical fishermen on it, unless their expenses are paid, *Tall* 7886-7896—Satisfaction with the fishing areas fixed by the Devon Fishery Committee, *Holboy* 7933-7940.

Contention that the fishery members of the Devon Committee should be paid their out-of-pocket expenses, as well as the county council members; objection to the present constitution of the board because it does not contain representative men, *Kent* 8014-8031, 8047, 8048.

See also *South Coast*.

Distant Fishing Grounds. Opinion that the more distant fisheries, of which very little is now known, have not suffered in the same way as the inshore fisheries from trawling and over-fishing, *Lankester* 3824, 3825.

District Committees. See *Fishery Committees*.

Dogger Bank. See *North Sea Fisheries*.

Donegal. Witness, who has taken great interest in the fisheries off Donegal, submits evidence showing the valuable fishing banks existing off that coast, which cannot be worked for want of a harbour; statement that Cruit Bay affords all the facilities for making a first-class harbour, *Singe* 6136-6142, 6144-6150, 6152, 6156-6159—Large population of the district, and small means of livelihood; 3,000 or 4,000 migrate every year, *ib.* 6143—Improbability of railway communication ever being established with Cruit Bay; advantage of good sea communication, which is cheaper and better, *ib.* 6151, 6169-6172.

Examination as to the probable expense of the suggested harbour and the means of obtaining the necessary money; Mr. Parsons estimated the cost at 110,000*l.*; *Singe* 6152-6156, 6174-6176, 6180—Discussion regarding the possibility of starting the fishing industry without the expenditure of so large a sum; opinion that it could not be attempted without a harbour, *ib.* 6160-6168—Large quantities of cod, sole, turbot, crabs, and lobsters caught in the vicinity of Donegal Bay, *ib.* 6177-6179.

Examination as to the fishing off Donegal, witness submitting that a harbour in Cruit Bay would be of very little advantage to the trawlers, who work thirty miles north of that place, *Green* 6248-6255, 6331-6334.

Draft Report. As proposed by the Chairman, *Rep.* xiv-xvii—Adoption thereof, subject to some amendments, *ib.* xvii-xx.

Dredgings. Necessity of the Board of Trade being given more stringent powers to prevent the deposit of dredgings on fishing grounds, *Montagu* 7748.

Dunnett, Charles. (Analysis of his Evidence.)—Witness is Provost of Wick, and has been intimately connected with the fishing trade for many years; represents the fishing industry, at the request of the town council, 7352-7357, 7462, 7463.

Strong feeling amongst the Wick fishermen, and all connected with the trade, that the inshore fishing is being destroyed by the trawlers; very considerable falling off in the quantity of fish in the last few years because of the large increase in the number of trawlers, 7358-7383, 7409—Statement that the fishing in the Wick district consists of herring, haddock, cod, and the ordinary round and flat fishing, the cod season generally being from January to the middle of February or March, 7364, 7365.

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G.

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Examination regarding the results of the experiments carried on in Galway Bay by the Government from 1873 to 1876; neither immature fish nor spawn were taken, *Lynch* 6102-6110—Details concerning the number of turbot, plaice, soles, and flounders caught formerly by the use of lines and nets only. *ib.* 6111-6119—Explanation that trawling was prohibited in Galway Bay in 1890 and 1891 by a bye-law, but it was never enforced; belief that such law could be enforced by the pressure of a gunboat, *ib.* 6123-6133.

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H.

Haddock. Information regarding the great falling off in the catch of haddock and whiting on the east coast of Scotland, *Freeland* 6400-6405—Statistics in connection with the haddock fishery at Peterhead, showing that while the boats have increased from 78 to 128 since 1887, the amount of fish caught has not substantially increased and the earnings per man have diminished; universal opinion that this unsatisfactory result is due to trawlers, *Mitchell* 7641-7667—Desirability of a trial being made of a close time for haddocks during March if the extension of the territorial limit be impossible, *ib.* 7676-7679.

Total quantity, value, and price in each of the years 1886-92, *App.* 376.

See also *East Coast. North Sea Fisheries.*

Hake. Statement that at Plymouth the annual arrival of hake used to be anticipated by the fishermen, as it was their harvest; opinion that the infrequency of the visits of these fish in the last three or four years is attributable to ~~the~~ trawling, *Holboy* 7906-7925. 7956 *et seq.*—Conclusion that the non-arrival of the hake off the Devonshire coast during the last four or five years is due to the steam trawlers following and catching the fish before they can reach the coast; strong objection to the destruction of large quantities of immature fish by the steam trawlers, *Kent* 7990-8004.

Hamburgh. Evidence respecting the ready sale for small flat fish at Hamburgh and the Baltic ports, *Aflalo* 5947-5954. 5965-5968.

Hame, John Whitfield. (Analysis of his Evidence).—Is a smack owner at Lowestoft and a member of the National Sea Fisheries Protection Association; has taken part in the numerous discussions on the subject now before the Committee, 1523-1527. 1544, 1545. 1676-1681.

Information respecting the rise and rapid increase of the trawling industry at Lowestoft; it practically commenced in 1860 when there were but twenty vessels, 1528-1534—Absence of any steam trawlers at Lowestoft, 1535. 1643. 1662—Opinion that about 13,000 people are engaged in the local fishing industries, 1536, 1537—Fishing grounds worked by the Lowestoft vessels roughly defined as lying between the 51st and the 53rd parallels, the grounds near Heligoland not being visited, 1539. 1634-1641. 1663, 1664—Opinion that the rate of speed maintained by the vessels is about two miles per hour, 1542, 1543. 1575, 1576. 1671-1675.

Statement showing that at Lowestoft there is universal objection to the proposed limitation of the size of fish captured or sold, 1547-1557. 1583-1593. 1658-1660. 1689-1698—Assertion that there are no undersized fish landed at Lowestoft, there being seldom anything under eight inches in length, 1547-1551. 1558-1561. 1577-1580. 1659. 1665-1667—Explanation in connection with table showing that of the fish landed there has been an increase of offal and a decrease of prime fish, 1562-1574. 1610-1626.

Statement that the price of fish generally is higher than it was ten years back, 1581, 1582. 1683-1686—Opinion that the decrease in the catch of prime fish is caused by

Hame, John Whitfield. (Analysis of his Evidence)—continued.

the overfishing of the North Sea, 1583. 1596, 1597. 1657. 1704. 1715—Belief that steam trawling is most injurious to the fishing interests, 1584. 1631-1633. 1644-1646. 1661. 1668-1670—Impossibility of preventing the capture of immature fish by any alteration of the size of the mesh of trawling nets, 1585-1587.

Contention that the introduction of too much capital into the fishing industry is opposed to the best interests of the fisherman, 1598-1607. 1643-1656. 1703-1718. 1726. *et seq.*—Inutility of any scheme for the prohibition of the capture or sale of immature fish unless it be international, 1608—Information relative to the Board of Trade returns; opinion that they are inaccurate, 1627-1630—Objection to the adoption of a close time, 1689.

HARBOURS:

Evidence as to the total inadequacy of the harbour accommodation on the Scottish coast and of the funds at the disposal of the Fishery Board for the maintenance of such places of refuge, *Eslemont* 3142. 3155. 3156. 3289-3310. 3331-3336—Conclusion that the provision of 7,000*l.* per annum, or a capital expenditure of 300,000*l.*, is required for the improvement of the Scotch harbours, *ib.* 3143-3154. 3156-3162. 3250-3265. 3311-3316.

Evidence as to the desirability of improved harbour accommodation on the east coast of Scotland, *Freland*, 6396, 6397—Advisability of the Scotch Fishery Board going thoroughly into the question of harbour accommodation and being given the power of borrowing the sums necessary to improve the present harbours wherever possible, *McNaughton* 7076-7083. 7093-7096.

Certainty that the want of harbours has hindered the development of the herring fishery, especially on the north-east coast of Scotland; cordial approval of the Fishery Board being empowered to enter on a general scheme of improving the fishery harbours, *Bruce* 7155-7169. 7179, 7180—Insufficiency of the fishing harbours on the Aberdeen coast, *Duthie* 7256-7259—Evidence as to the improved harbour accommodation required at Peterhead, *Mitchell* 7696-7708. 7722-7726.

Existence of dissatisfaction as regards the expenditure of the annual sum placed at the disposal of the Scotch Fishery Board, *Rep.* vi.—Suggestion that in future the Board be allowed to apply any funds with which they may be entrusted for purposes of harbour improvement as a security for loans, to be made by the Public Works Loans Board to harbours which may be approved both by that Board and by the Scotch Fishery Board, *ib.*

Recommendation as to funds being provided for harbour improvements in England and Ireland and being entrusted to the Sea Fishery Boards proposed for those countries, *Rep.* vi.

See also Moray Firth.

Hatcheries. *See Artificial Propagation.*

Hatton, Thomas. (Analysis of his Evidence.)—Is a representative of the National Federation of Fishermen; has considerable experience in deep-sea trawling and in the in-shore fishing on the eastern coasts of the North Sea, 5150-5154. 5164.

Statement that the small flat fish caught comprise small soles, dabs, flukes and a very few small plaice, 5155-5158—Opinion that the take of flat fish in the North Sea has been falling off during the last ten years 5165-5169—Information respecting the great catching power of steam trawlers, 5170-5174. 5213, 5214. 5292, 5294. 5329, 5330. 5353, 5354.

Belief of witness in the desirability of limiting the size and sale of certain fish, 5175. 5195. 5313-5326—Reference to the great take and waste of mature fish now going on in Iceland, 5175-5178. 5215-5226. 5331-5338—Evidence respecting the great quantity of plaice in the market this summer, and its low price; those landed have been either coarse Iceland fish or small ones from the German coast, 5179-5187—Reference to the large number of soles imported this year, 5188-5191.

Opinion that an extension of the territorial limit would be beneficial; reasons adduced for the necessity for giving that matter the most careful consideration, 5192-5195. 5227-5231—Consideration of the various suggestions made by fishermen as to the best means of increasing the number of fish; opinion that by having a particular build of vessel and by making shorter hauls it would be practicable to return fish alive to the sea 5195-5212. 5232, 5233. 5310-5312. 5327, 5328.

Advisability of prohibiting steam trawlers inside territorial waters; opinion that the carrying out of such restrictions should be undertaken by the local fishery boards of particular districts, 5236-5241. 5264-5268—Objection to the taking of immature fish, especially in the areas near Heligoland and off the North German coast, 5242-5252.

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Heincke, Professor. View of Professor Heincke (director of the Biological Institute, Heligoland), as to the remedial measures required for the improvement of the British sea fisheries, as regards quantity and size of fish, *App.* 405.

Heligoland. Correspondence submitted between witness and the Italian officials, and the director of the Marine Biological Institute of Heligoland, *Aflalo* 5940-5942.

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Herdman, Professor W. A. (Analysis of his Evidence).—Considerable attention devoted by witness to the subject of sea fisheries; part taken by him as adviser to the Lancashire Sea Fisheries' Committee, 4539-4541.—Strong impression that the fisheries off the Lancashire coast have greatly declined both as regards the number of fish caught and the size, 4542-4547.

Importance attached to protection of the young fish in the nurseries or shallow waters on certain parts of the Lancashire and Cheshire coast, 4548-4557.—Information as to the enormous quantities of immature food fishes taken by shrimp trawls off the coast of Lancashire, witness submitting that restrictions should be placed on shrimp trawling in the interest of the fisheries generally, 4558-4578. 4618-4626. 4635.

Suggestions as to the size limit desirable for plaice, soles, lemon soles, and other fish, the object being so to fix the size as to admit of spawning, 4579-4591. 4607-4610. 4613-4615.—Advantage if a close season could be applied to particular fishing grounds while spawning is going on, 4592-4596. 4604-4606. 4627-4634.

Importance attached to fish hatcheries as to the rearing as well as the production of young fish; reference hereon to proposed experiment at Port Erin (Isle of Man), for the benefit of the Lancashire fisheries, 4597-4603. 4627. 4636-4644.—Contemplated use of artificial as well as natural food in the hatcheries, 4601-4603. 4616, 4617.—Expediency of scientific teaching in connection with fish nurseries, 4611, 4612.

HERRING FISHERIES:

1. *General Condition and Yield of the Fisheries off the Coasts of England Scotland, and Ireland.*
2. *Question of a Close Time.*
3. *Habits and Movements of Herrings.*
4. *Conclusions of the Committee.*

1. *General Condition and Yield of the Fisheries off the Coasts of England, Scotland, and Ireland:*

Opinion that there is no deterioration in the Scotch herring fisheries, *Fulton* 3644, 3645. 3782-3787.—Evidence respecting the objection of Scotch fishermen to steamers in the herring fisheries, *Maconochie* 5848-5850.—Desirability of a strict maintenance of the brands in order to keep up the standard of catch, 5936, 5937.—Practical abandonment of the herring fishery off the north-east coast owing to the boats in use being unfit to compete with those of the Lowestoft men, *Sheeder* 6746-6756.

Statement that the herring fishery is the principal industry in which the people of Fraserburgh, St. Combs, &c. are engaged all the year round, with a little line fishing in winter, *Bruce* 7117-7119.—Prejudicial effect of trawling on the herring fishery off Wick, the trawlers breaking up the shoals when they are coming in on the coast; marked improvement since trawling has been prohibited, *Dunnett* 7395-7399.—Assertion that the trawlers seriously interfere with the herring spawning ground off the Caithness coast, *Sutherland*, 7571-7579.

Particulars as to the craft used for herring fishing on the east coast; belief that as far as the fishermen of Yarmouth are concerned there is no need for legislation, the take of herrings being as large as ever, *Balls* 5448-5455.—Inability of witness to account for the decline in the take of herrings in the Irish fisheries; conclusion that the fishing done off Kinsale breaks up the shoals before they enter the Irish Sea, *Green* 6208-6217.

Total quantity, value, and price of herrings returned as landed on the English and Welsh coasts in each of the years 1886-92, *App.* 376.

Great falling off in the quantity of herrings landed at Howth since 1874, *App.* 406.

2. *Question of a Close Time:*

Suggestion that with the view of affording protection to the Scotch herring fisheries districts should be instituted, and that if two-thirds of the fishermen of any of these districts agree to a close time the Fishery Board should be empowered to proclaim such close season, *Esslemont* 3179-3181. 3240. 3371, 3372.—Evidence showing that the establishment of a close time for herrings is absolutely unnecessary; opinion that no restrictions whatever should be placed on the capture of herrings, *Maconochie* 5736. 5751. 5756-5762. 5786. 5851-5855.—Objection to the institution of a close time for herrings off the Irish coast, *Green* 6223, 6224.

HERRING FISHERIES—continued.**2. Question of a Close Time**—continued.

Suggestion that a close time should be established for herrings from the 1st June to the 10th of July in order to increase the price and thus benefit the fishermen, *Freeland* 6423-6439.

Grounds for disapproval of a close time for herrings; opinion that the term "immature" is not applicable to herrings, *Bruce* 7120, *et seq.*; 7181-7197. 7207-7215—Impossibility of fixing a close time, as the herrings come to maturity at different times on different parts of the Scotch coast; variation also of the time from year to year, *ib.* 7130-7136.—Belief that a close time would seriously affect the means of livelihood of a large number of fishermen, putting the Scotch fishermen at a disadvantage as compared with foreign fishermen, *ib.* 7136-7145.

Reasons for the opposition of the large majority of Port Errol and Boddam fishermen to any close time for herrings; general conviction that a close time would do considerable damage to the fishing trade in those places, *Duthie* 7220-7236. 7266-7270—Utter impossibility of applying a close time for herrings with any satisfaction owing to the variation of the seasons and the nature of the trade; failure of the herring fishery at Stornoway this season through a close time, *Macadie* 7510-7514.

Evidence to the effect that all the meetings of fishermen were in favour of a close time for herrings; practicability of the proposal if the whole of Scotland be divided into districts, *Sutherland* 7580-7588—Grounds for witness' opposition to the fixing of a close time for herrings; statement that the fishermen of Peterhead and Fraserburgh, who represent the vast majority of the herring fishery off the north-east coast of Scotland, are decidedly against a close time, *Mitchell* 7619-7639. 7709-7711—Doubt as to the willingness of the Dutch and French to agree to a close time for herrings, *ib.* 7639, 7640.

Précis of opinions upon the question of a close time, obtained from fish curers, fish merchants, and fishermen round the coast of Scotland, *App.* 390.

3. Habits and Movements of Herrings:

Insufficiency of the present knowledge as to the migration of herrings, *M'Intosh* 3605-3610—Belief that herrings spawn twice a year, *Maconechie* 5744-5750. 5778-5780—Belief that the herrings do not work down from Scotland, as there are distinct differences in the fish caught at various stations, *ib.* 5835-5842—Impossibility of accounting for the irregularity in the advent of herrings, *ib.* 5844, 5845.

Obstacles to a close time for herrings, as the time of their becoming ripe depends very much on the weather; belief in the theory that the herrings go right round the coast, *Dunnett* 7390-7394.

4. Conclusions of the Committee:

View of the Committee as far as the herring fisheries are concerned there is no indication of any falling off in the number of herrings to be found off our coasts, *Rep.* iii, iv.

Consideration of certain evidence from Scotland in favour of a close time, varying in seasons in various localities; differences of opinion on the subject amongst curers and fishermen in different districts, *Rep.* vi.—Conclusion adverse to any alteration of the law in this respect, *ib.*

See also *Aberdeenshire. Ayrshire. East Coast. North Sea Fisheries. Scotland. Trawling.*

Holbry, James. (Analysis of his Evidence).—Witness has been fishing practically all his life and is now a master man, owning his own boat at Plymouth, 7902-7905.

Experience of witness that there is no falling off in the quantity of fish in his locality, except as regards hake, 7906, 7907. 7963-7967. 7977-7980—Statement that the annual arrival of hake was anticipated by the fishermen, as it was their harvest; opinion that the infrequency of the visits of these fish in the last three or four years is attributable to steam trawling, 7906-7925. 7956 *et seq.*

Agreement with the action of the Cornwall committee in prohibiting fishing by steam trawlers in territorial waters, 7926-7930—Injurious effect of steam trawling on the fish off the mouth of Waterford river, 7930-7932.

Satisfaction with the fishing areas fixed by the Devon Fishery Committee, 7933-7940—Suggestion that steam trawlers should not be allowed to fish within twenty miles of the shore; belief that in time steam trawlers will cause one of the chief food supplies of England to become extinct, 7937-7940. 7961-7967.

Complaint that the trawling industry at Plymouth is not properly represented on the local district fishery board; explanation that until some remuneration or guarantee for expenses is given the fishermen could not afford to send a competent representative, 7941-7949—Opinion that the limits as to the size of fish recommended by the National Sea Fisheries

Report, 1893—continued.

Holbry, James. (Analysis of his Evidence)—continued.

Fisheries Protection Association are in some cases unsuitable; view of the Plymouth fishermen however, that the catching of immature fish must still go on, 7950-7955. 7968-7976.

Holland (Dutch Fishermen). Exception taken by the Dutch Government to the course proposed at the International Conference as regards immature fish, *Towse* 19. 21, 22—Statement that the Dutch do very little fishing by means of trawlers, *Normington* 1204, 1205.

Opinion that there is a great decrease both in the number and size of flat fish, and that this is caused by the great destruction of immature fish off the Dutch coast, especially from March to June, *Crawford* 6656-6663—Benefit to be derived by increasing the three mile limit on the Dutch shore from February to June, both for sailing and steam trawlers, *ib.* 6680-6685.

Holt, Ernest W. L. (Analysis of his Evidence.)—Witness, who is a naturalist on the staff of the Marine Biological Association, has been stationed at Grimsby for about eighteen months, and has made several trips in trawlers working from that port; great disadvantage through his not having a vessel under his own control, 3930-3938. 3941, 3942. 4099, 4100—Conclusion that there has been an immense depletion of the North Sea Fisheries, and that on the eastern grounds there has been a great diminution of large fish, such as plaice, 3939-3942. 3962, 3963. 4119, 4120—Very injurious effect of trawlers, both steam and sailing, as regards immature fish, 3943. 3962, 3963. 4119, 4120.

Suggestions for prohibiting the landing of plaice, soles, turbot, and other kinds of fish of less size than that at which they begin to spawn; that is, as regards the North Sea, 3944-3961. 3974-3987. 3991-3994. 4001-4004. 4090, 4091. 4104-4108—Objection to the sizes proposed by the Fishery Conference, 3948-3951. 3992. 4001—Larger size of the female fish than of the male, 3957—Doubt as to any limit being necessary for lemon soles, 3960—Difficulty in fixing a close season on account of the long period of the year over which spawning extends; objection also to the consequent stoppage of trade, 3964, 3965. 3995-4002.

Beneficial effect upon the North Sea fisheries generally by some check upon over-fishing on the eastern grounds; migration of fish adverted to hereon, 3966-3968. 4065-4070—Extensive area over which fish spawn in the North Sea, but not within about ten miles of the coast, 3969-3972—Obstacles to the protection of extra territorial waters, the area being very extensive, 3973. 4071-4074.

Suggestions on the subject of the provision of rearing ponds and of keeping fish in them up to a certain size, 3988-3990—Very little good expected from a prohibition upon sale if the limit of size be fixed lower than is proposed by witness, 3991-3994. 4001-4004—Advantage of a re-adjustment of the mesh of the net so that immature fish may escape; suggestions hereon, 4005. 4096-4100—Objection to a fixed territorial limit of ten miles, 4006, 4007.

Immense quantities of very small plaice and other fish which find their way from the spawning beds into the Humber; extensive and wanton destruction of great numbers of these by the shrimpers and seine men, 4008-4039—Approval of the close time established for shrimpers on the Humber, 4040-4044—Particulars relative to the work carried on at Cleethorpes laboratory, 4047-4054—Approval of hatcheries at some points along the east coast, 4055-4057.

Experience of witness with reference to the west coast of Ireland fisheries; different conditions as compared with the North Sea fisheries, 4058-4064—Difficulty as regards hatcheries through the liability of the young fish to be destroyed in shallow water by the shrimp seiners, 4076-4079—Necessity of discriminating between different waters as regards a limit size for plaice and other fish, 4080-4083—Several obstacles to the prevention of capture of immature fish or to ensuring their being returned to the sea by the fisherman, 4084-4091.

Usefulness of lectures for the better instruction of fishermen on small points, 4092, 4093—Suggestions as to the kind of boat required for scientific observations at sea, 4094, 4095—Limited advantage by fixing short close times at different seasons for different kinds of fish, 4109-4112—Insufficient scientific knowledge upon the questions at issue, though legislation may be safely recommended on certain points, 4113, 4118.

[Second Examination.] Statement showing the proportion of plaice from seven to thirteen inches and from four to seven inches taken by a steam trawler on certain grounds in May 1893; 4123.

Hull. Great increase in the Hull fishing business since the year 1846; result that the North Sea is almost swept of ground fish, *Toozes* 468—Evidence to the effect that there are about 150 steam trawlers at Hull and 300 sailing vessels, *ib.* 469-471. 475, 476. 581, 582.

Estimate that the population of Hull is about 213,000, of which some 50,000 are engaged in the fishing industry; opinion that a capital of 2,000,000*l.* is involved, *Toozes* 472-474—Contention that the vessels of Hull and Grimsby are too large to be worked profitably, *Caseley* 1769-1779.

See also *East Coast.* *Grimsby.* *North Sea Fisheries.*

L

Iceland. Reference to the great take and waste of mature fish now going on in Iceland, *Hatton* 5175-5178. 5215-5226. 5331-5338.

IMMATURE AND UNDER-SIZED FISH :

1. *Evidence as to the Capture and Sale of Immature Fish and the Amount of Injury to the Fisheries thereby.*
2. *Question of a Prohibition upon Capture and upon Landing and Sale.*
3. *Question of returning Immature and Under-sized Fish to the Sea.*

1. *Evidence as to the Capture and Sale of Immature Fish and the Amount of Injury to the Fisheries thereby :*

Information respecting the various conferences held at the Fishmongers' Hall at Hull, and at other places, on the subject of the quantity of immature fish landed, with the result that Government interference was demanded, *Towse* 10-16. 29. 79. 157. 158. 161. 162—International conference held in July 1891, at which it was decided to collect all information as to the damage done by the capture of under-sized fish; summary of inquiries on the subject produced by witness, *ib.* 17. 18. 20. 23. 127. 130. 131—Reference to the term immature fish as having relation to the edible capacity only, and not to the question of propagation, *ib.* 179. 180.

Capture of fish at the present time fully equal to that of 1846 owing to increase of facilities, but the size and weight has materially decreased; sample of fish landed at Billingsgate produced by witness, *Toozes* 477-487. 491-496. 583. 592-600—Samples produced of the immature fish that are being sold in various markets, *Barber* 602-608—Information respecting the serious decrease in the size of fish now caught as compared with those taken twenty years ago; this result is attributable to the capture of under-sized fish, *Jeffs* 612-625. 706-708. 712-714.

Explanation that as a rule, such small fish as dabs would be sent to market only when mixed with or placed underneath large fish, *Pickering* 854-856. 873-879—Information respecting the great decrease in the sizes of fish and the difficulty of obtaining plaice of a serviceable size; instance of witness having purchased a trunk of 350 fish of which 100 had to be thrown away on account of their smallness, *Wallis* 910-922. 930-933. 944 *et seq.*—Dissatisfaction of witness' customers with the smallness of the fish, *ib.* 934-938.

Difficulty of carrying on the fried fish business owing to the scarcity of large fish, *Lowell* 964-976—Statement that witness would probably have to throw away as useless about 600 fish out of every 700, *ib.* 977-981.

Witness, who is engaged in the fried fish trade at Rotherhithe, concurs with previous evidence as to the great scarcity of flat fish of a serviceable size; opinion that the capture of immature fish is the cause thereof, *Tampen* 1000-1006. 1024—Particulars showing the difficulty of carrying on a profitable business owing to the smallness of the fish now supplied, *ib.* 1009-1015—Statement that witness has been obliged to purchase four trunks of fish in order to get sufficient large fish for one trunk; the actual amount of fish wasted is not however so large as represented by previous witnesses, except during a certain period of the year, *ib.* 1016-1018. 1025-1041.

Opinion that the deterioration of the fisheries is caused by the capture of the small fish, *Murrell* 1844-1847—Production of specimens of fish which, in the opinion of witness, should not be caught even though they are of sizes larger than the proposed limits, *Jex* 1955. 1956. 1960-1963—Large proportion of immature fish thrown overboard, *ib.* 1957-1959. 1965—Conclusion that the destruction of such fish as those produced is most prejudicial to the fishing industry, *ib.* 1964.

Belief that the diminution as regards soles and plaice is due to the capture and sale of immature fish, for which there is a ready market; details in support of this opinion, *Dawson* 2213-2219. 2299. 2329. 2330. 2373—Considerable destruction of fish under eight inches in length by ordinary trawlers, and of fish varying from two to four inches by shrimpers, *ib.* 2239-2244.

Information respecting the capture of immature fish in the Scotch fisheries, which is not so great as imagined; opinion that the best means to be adopted for their protection would be to close, by international agreements, certain areas during the spawning season, *Esslemont* 3169-3175. 3317. 3318. 3339-3346.

Large quantity of immature fish caught by fishermen using small hooks, *McIntosh* 3433-3439—Reference to a paper by Mr. Holt showing the proportion of young plaice and young soles taken in shallow waters, *Cunningham* 4197. 4198—Statement that the small flat fish caught comprise small soles, dabs, flukes and a very few small plaice, *Hatton* 5155-5158—Greatest quantity of small fish taken off the Danish and German coasts, *Taylor* 5359-5363. 5414.

IMMATURE AND UNDER-SIZED FISH—continued.

1. Evidence as to the Capture and Sale of Immature Fish, &c.—continued.

Statement that the deterioration in the size of the fish is due to the increased killing power and to there being a market for the sale of small fish, *Prentice* 5495-5500—Belief that the practice of selling under-sized fish has a good deal to do with the scarcity; opinion that it would be wiser and more practical to fix a limit as to the size of fish to be sold than to fix the size of the mesh, *Hon. J. S. Montague* 7742-7744. 7748.

Immense number of the smaller sized fish caught on the shallow, sandy grounds on the east side of the North Sea, *Rep.* iv.

2. Question of a Prohibition upon Capture and upon Landing and Sale.

Opinion that it would be impossible to enforce an enactment prohibiting the capture of under-sized fish; suggestion that the prohibition should extend to the landing and sale of small fish, *Towse* 98-106. 145-147. 174-176—Petition from 1,300 fish fryers and others advocating that immature fish should not be landed, *ib.* 150-156.

Concurrence of opinion that the landing and sale of immature fish should be prohibited as recommended by the National Sea Fisheries Association; belief that this course would undoubtedly improve the fisheries, *Alward* 264-268. 326. 376-380; *Toozes* 535, 536. 552, 553. 556-564. 574. 591; *Jeffs* 647. 656, 657. 662-664. 670-674. 689-693. 738, 739.

Concurrence of witness in the proposal to prohibit the landing and sale of immature fish provided that such prohibition were an international law, *Simpson* 777-781—Satisfaction to be given if the suggested prohibition of landing and sale extended to the British Islands only, and were not made the subject of an international law, *Normington* 1134, 1135. 1152, 1153. 1204.

Decided approval of a prohibition upon landing and sale of immature fish, in the interests of the fisheries, *Roach* 837-839; *Pickering* 844-846. 880; *Tampen* 1007, 1008. 1044-1052; *Normington* 1094. *et seq.*; *Murrell* 1848, 1849, 1877, 1878. 1902-1905; *Jex* 1965-1971; *Fell* 2081-2086. 2146; *Prentice* 5501-5506; *Leek* 6000, 6001.

Disagreement with previous evidence as to the necessity for the prohibition of the landing and sale of immature fish; as regards the South Coast fisheries there is no falling off in the supply of flat fish, *Little* 1283-1285. 1290, 1291. 1314-1317. 1345, 1346. 1364-1368—Contention that the proposed prohibition would be absolutely useless unless the fishing areas where the small fish abound are also prohibited, *ib.* 1286-1288. 1304. 1318. 1347, 1348. 1351, 1352.

Impossibility of carrying out any law prohibiting the capture of immature fish, opinion that the prohibition should extend to the landing and sale of undersized fish, *Berrington* 2992-2995. 3038—Suggestion that the proposed prohibition of the landing and sale of immature fish should be enforced by the Sea Fisheries Committees and the market authorities, *ib.* 3040, 3041.

Opinion that any regulations that may be made as to the capture of immature fish should extend to all classes of fishermen, *McIntosh* 3451-3454—Impracticability of so regulating the methods of fishing as to prevent the capture of immature fish, *Fulton* 3661-3670. 3676.

Advantage of a prohibition not only upon the capture but the sale of immature fish; law about to be adopted in Norway on this point, *Dannevig* 4324-4335. 4341, 4342—Opinion that any prohibition upon the landing or sale of fish below a fixed size should apply equally to all parts of the coast and should be limited to turbot, brill, and sole, *Calderwood* 4350-4353. 4357-4359—Suggestion that carriers should have the power to refuse to receive small fish on board their vessels, *Taylor* 5368-5370.

Facility with which the landing and sale of fish might be supervised, *Maconochie* 5898-5902—Impracticability of carrying into effect any law merely prohibiting the capture and not the sale of small fish, *Normington* 1103, 1104. 1106, 1107. 1167; *Jex* 1972-1975—Desirability of regulations preventing the capture of under-sized fish; opinion that this object can only be obtained by provisions as to the instruments of capture, *Fell* 2080. 2139-2143.

Information respecting the enforcement of laws prohibiting the capture and sale of immature fish in Germany, Denmark, Holland, Belgium, and France; opinion that as regards sale such laws could be enforced in England, *Berrington* 2945-2949. 3036-3037.

Objection to any prohibition of the landing and sale of small fish; explanation as to the usual sizes of the fish caught with the mesh generally used off the Lancashire coast, *Wright* 5570-5575. 5608-5616—Disapproval of immature fish being branded and cured; non-objection to the sale of fresh immature fish, *Dunnet* 7410-7413. 7425-7433.

Suggestions in letter from Mr. Cunningham for preventing the destruction of immature fish by British subjects within certain limits in the North Sea fishery grounds, *App.* 401.

IMMATURE AND UNDER-SIZED FISH—continued.**2. Question of a Prohibition upon Capture, &c.—continued.**

Letter from Mr. Trench, superintendent of Billingsgate Market, respecting the sale of immature fish in the market, together with suggestions for mitigating the evil, *App.* 401.

Impracticability of following up a prohibition of the capture of the smaller sized fish, *Rep.* iv.

3. Question of Returning Immature and Under-sized Fish to the Sea :

Recommendation that immature fish be thrown into the sea after being caught ; opinion that a great quantity would live provided that they were so returned within a reasonable time, *Alward* 288-295. 339. 340—Belief that with a two or three hours' trawl about seventy-five per cent. of the young fish could live if returned to the sea, but with a six hours' trawl the death rate would be higher, *Toozes* 503-507. 554, 555. 565-567. 575—Estimate that ninety per cent. of the fish caught would be dead by the time they were returned to the sea unless the length of trawl were shortened, *Jeffs* 654, 655. 686-688. 694-700 ; *Alward* 897, 898 ; *Exton* 5102.

Conclusion that the question as to whether fish live after being returned to the sea depends upon the length of haul ; opinion that shorter hauls should be made, *Simpson* 802-808. 814—Qualification of statement that with shorter hauls more fish would live on being returned to the sea ; detailed explanation on this point, *Alward* 902—Belief that very few fish could live after being caught and then put into the sea again, even though the length of haul were reduced to two hours, *Normington* 1097-1102. 1105. 1127. 1170-1174. 1235.

Opinion that very few fish live after being caught and returned to the sea, *Saunders* 1511 ; *McIntosh* 3498. 3522-3531—Belief that fifty per cent. of the fish caught in the trawl are alive when drawn up, *Jex* 1976-1978—Opinion that if small fish were returned to the sea most of them would live, *Fell* 2050. 2174-2176.

Evidence to the effect that under certain conditions a very large per centage of fish would live if thrown back into the sea, *Dawson* 2225-2230. 2279-2282. 2291-2294. 2300-2308. 2370-2372—Importance of regulations enforcing the restoration of small fish to the sea as it appears from experience that most of them would live if so treated, *ib.* 2247-2249. 2251, 2252—Statement that very few fish would live when returned to the sea after being caught unless the length of haul were shortened, *Berrington* 3078, 3079.

Reference to the experiments made on board the "Garland" with the view of ascertaining the vitality of fish after having been caught and returned to the sea ; opinion that very few would live under such circumstances, *Fulton* 3678-3689—Obstacles to any regulation for enforcing the return of immature fish to the sea when caught by trawlers in extra territorial waters, *Cunningham* 4181-4183—Suggested supervision of the fishing boats so as to ensure under-sized fish being at once returned to the sea, *Calderwood* 4395-4398. 4510-4519.

Opinion that no advantage would result from restricting the size of fish sold, and that ninety per cent. would die if thrown overboard after being caught, *Dyer* 4873-4894. 4921-4928. 4932, 4933—Information respecting the great quantities of small fish caught and thrown overboard ; belief that a large percentage of those so treated live, *Scott*, 4962-4968. 5013.

Consideration of various suggestions made by fishermen as to the best means of increasing the number of fish ; opinion that by having a particular build of vessel and by making shorter hauls it would be practicable to return small fish alive to the sea, *Hatton*, 5195-5212. 5232, 5233. 5310-5312. 5327, 5328—Experience of witness as to the practicability of sorting fish on the deck of a trawler ; conclusion that one half would live on being returned to the sea, *Prentice* 5507-5510. 5545-5547.

Information as to the number of fish that would probably die on being returned to the sea : estimate that in the Baltic, owing to the hard bottom and the shortness of the haul, only three out of a hundred die, *Aflalo* 5955-5957.

International Regulations. General feeling that any legislation should be on international lines, so that fishermen of different countries would be under the same restrictions as regards size, &c., *Towse* 33-37. 72, 73—Reiteration of opinion that legislation should be upon an international basis ; contention that no scheme for the preservation of the fisheries would be practicable otherwise, *ib.* 107-111—Conclusion that any legislation to be thoroughly effective should be on an international basis, so that fishermen of different nationalities should be under the same restrictions, *Alward* 269, 270. 296. 331. 347, 348.

Concurrence in the view that to be of any real benefit, restrictions should be international, *Toozes* 537-544 ; *Hame* 1608 ; *Jex* 1969—Opinion that protection by international law should be applied to those grounds where immature fish are caught in any quantities, *Caseley* 1749-1754. 1803. 1805. 1810-1820.

Difficulty

International Regulations—continued.

Difficulty of making efficient international arrangements for the protection of certain areas, *Berrington* 3048-3052 —Obstacles to the enforcement of regulations by the various international powers in the event of an extension of the territorial limit, *Fulton* 3734-3749- 3771.

Evidence showing the necessity for an international restriction of the capture of small fish; suggestion that certain grounds near Heligoland should be permanently closed, *Exton* 5103-5110. 5137-5140—Difficulty of attempting to close certain areas unless by international agreement, *Taylor* 5374-5385. 5406-5419.

Opinion of the Committee that a strong effort should be made to secure the adoption of uniform regulations for limits of size and other matters by all the nations interested in the North Sea fisheries, *Rep.* iv.

See also *Size Limit.* *Territorial Limit.*

IRELAND:

Examination respecting the general functions of the Irish Fishery Inspectors; they have the power to make bye-laws, which, on being ratified by the Privy Council, become part of the law of the land, *Green* 6183-6188—Opinion that with the exception of the herring fishery between the coast of Ireland and the Isle of Man there is no general deterioration of the Irish fisheries; the catch in 1892 was, however, 117,000 cwt. less than that of 1887, *ib.* 6188-6198.

Explanation that in the fisheries on the north-east coast of Ireland the numbers of English, Irish, and Scotch fishermen are about equal, but there has been a great falling off in the numbers during the last few years, *Green* 6199-6207—Reference to an opinion of the fishermen that trawlers have interfered with the spawning beds round the Isle of Man; evidence as to the existence of large spawning beds on the east coast of Ireland where it is impossible to trawl, *ib.* 6218-6222, 6279-6281, 6288, 6289—Statement that plaice, soles, and turbot, in which there is no decrease, are principally caught by trawlers off Dublin Bay, *ib.* 6233-6236.

Explanation of the policy pursued by the Irish Fishery Board in passing bye-laws excluding outside fishermen from certain areas, *Green* 6322-6326—Reference to the assistance given to the people by the Congested Districts' Board and the Irish Fishery Board by issuing loans for the purchase and equipment of boats, *ib.* 6337-6340.

Experience of witness with reference to the west coast of Ireland fisheries; different conditions as compared with the North Sea fisheries, *Holt* 4058-4064—Statement that the local catch of flat fish off the Londonderry coast has fallen off greatly through the use of the small mesh, *Leek* 5972-5974, 6018, 6019.

Evidence to the effect that the principal fish caught on the Tieve coast are ling and cod, which are caught on the long line, *Munn* 7278-7280, 7289-7296—Statement that this year the Tieve fishermen have had to go a long way to the back of the Skerryvore Rock to fish in order to keep clear of the steam trawlers, their lines not being safe on the banks where they used to fish, *ib.* 7280-7285, 7309 *et seq.* 7321-7332—Advisability of an arrangement under which linesmen only would be allowed to fish from February to July, and trawlers only for the remainder of the year, so as to remedy the evils complained of, *ib.* 7297-7308, 7333-7338.

Recent instance in which a fishing boat had its lines destroyed by three trawlers, the fishermen having received some compensation, *Munn* 7310-7318—Practice of the Tieve fishermen to cure their fish and keep it until they have two or three tons, when it goes by steamer direct to Glasgow; conveyance of witness' fish by the "Dunara Castle" in consequence of the three companies agreeing to raise the rate of freight, *ib.* 7339-7351.

Limited amount of evidence from Ireland, owing, doubtless, to the season of the year and the inconvenience of attendance in London; reference especially to the non-attendance, through illness, of Sir Thomas Brady, *Rep.* vii.

Reference to certain evidence as being to the effect that there is not any general deterioration or depletion of Irish fisheries, *Rep.* vii.

Conclusion that the authority to regulate Irish fisheries should, as in Scotland and as proposed for England, be vested in a Board into which a considerable representative element should enter, *Rep.* vii.

See also *Brady, Sir Thomas.* *Donegal.* *Galway.* *Lough Foyle.* *Mackerel.*
Trawling. *Waterford.*

J.

Jeffs, Charles (Analysis of his Evidence).—Is a director of several trawling and ice companies; resides at Grimsby, 609, 610, 710, 711, 726-729.

Information respecting the serious decrease in the size of the fish now caught as compared with those taken twenty years ago; this result is attributable to the constant capture of undersized fish, 612, 625, 706-708, 712-714.—Estimate that there are about 1,000 vessels on the eastern shore engaged in catching small fish; details as to the weights and values of the fish taken, 626-628, 649-953, 660, 661, 666-668.

Evidence as to the great amount of injury the fishing industry of Grimsby has sustained by the capture of immature fish, this having practically depleted the North Sea, 629, 630, 675-685.—Suggestion that certain areas should be prohibited to vessels of all nations for several months in the year, 631-642, 658, 659, 669, 701, 704, 705, 717-719, 730.—Impracticability of the suggestion that a general close time should be enforced, 643-646, 731, 732.

Opinion that the landing and sale of immature fish should be prohibited, as recommended by the National Sea Fisheries Association; belief that this course would undoubtedly improve the fishing 647, 656, 657, 662-664, 670-674, 689-693, 738, 739.—Estimate that ninety per cent. of the fish caught would be dead by the time they were returned to the sea unless the length of trawl were shortened, 654, 655, 686-688, 694-700.—Opinion that if trawling were prohibited there would be an end to trade in flat fish, 709, 715, 716.

Jex, Edward. (Analysis of his Evidence).—Is a large shareholder of the Hull Steam Fishing Company; also owns twelve trawling smacks at Great Yarmouth, 1934-1941, 1951, 2027.

Statement that during the experience of witness the price of fish has in many instances gone up five or six hundred per cent. through the depopulation of the fishing grounds, 1942, 1943, 1945.—Opinion that at the present time more weight of fish caught than twenty years ago; great reduction in the size, 1944, 2008.—Information in support of estimate that the price of soles has gone up 1,000 per cent., 1945-1950.—Opinion that ten years ago the catch of soles was 200 per cent. more than it is now, 1952-1954, 1979, 1980.

Production of specimens of fish which in opinion of witness should not be caught, even though they are of sizes larger than the proposed limits, 1955, 1956, 1960-1963.—Large proportion of immature fish thrown overboard, 1957-1959, 1965.—The destruction of such fish as those produced is most prejudicial to the fishing industry, 1964.

Opinion that the landing and sale of immature fish should be prohibited, 1965, 1971.—Witness also favours the proposal to increase the size of the mesh of trawling nets, 1965, 1972, 1984-1988.—Suggestion that trawling within territorial areas should be prohibited, 1966.—Opinion that people in possession of fish below a certain limit should be made amenable to law, 1967, 1968.—Restrictions should, if possible, be on an international basis, 1969.

Impracticability of carrying into effective operation any prohibition of the capture of immature fish, 1972-1975.—Statement that 50 per cent. of the fish caught in the trawl are alive when drawn up, 1976-1978.—Conclusion that over-fishing is the cause of the deterioration in the fisheries, 1981-1983.—Suggestion that the enforcement of the propositions made by witness should devolve upon the Customs, 1989-1991.—Reference to the unsatisfactory nature of the plaice now caught; sample produced, 1994.

Information respecting the damage done by the use of improper nets; suggestion that there should be a general overhauling and restriction, as to smallness of mesh, of all the fishing nets used, 1995-2007.—Details as to the great damage caused by the use of ground ropes, 2008-2024.—Opinion that steam trawlers undoubtedly do a great amount of injury to the fishing, 2027-2029.—Denial that soles from the south coast fisheries are of better quality than those caught in the North Sea, 2030-2033.

Johnson, Sidney. (Analysis of his Evidence).—Has considerable experience of oyster fisheries, being the son of the late manager of the Medina Oyster Fisheries, 2914-2916.

Opinion that oysters at the spatting season are quite unfit for human food, 2917-2920.—Statement that French oysters undoubtedly spat when laid down in English beds; reference, as a case in point, to the heavy fall of spat in 1887; 2921, 2924-2928.—Desirability of an extension of the English close time to foreign oysters imported, 2922, 2923.

General

Report, 1893—continued.

Johnson, Sidney. (Analysis of his Evidence)—continued.

General concurrence with the evidence given by Mr. Oatley as to the time, viz., from five to seven days, taken by spat in developing, 2934-2936—Statement that in the waters of the Medina Company witness can readily distinguish English from foreign oysters, 2937-2941.

K.

Kent, Joseph. (Analysis of his Evidence.—Witness is a practical fisherman and smack-owner residing at Plymouth, 7981-7984.

Explanation that the Plymouth waters are not frequented by steam trawlers because the fish caught there are too common to pay for steam trawling, 7985-7989—Opinion that the non-arrival of the hake on witness' coast during the last four or five years is due to the steam trawlers following and catching the fish before they can reach the coast; strong objection to the destruction of large quantities of immature fish by the steam trawlers, 7990-8004.

Approval of a restriction as to size being set upon fish, a different size being fixed for each kind of fish; attention drawn to the fact, however, that such a restriction would not save the immature fish, as they would be dead before they could be thrown over-board, 8005-8013. 8049-8059—Improbability that any increase in the size of the mesh would allow the small fish to escape, 8010, 8011. 8032-8038.

Contention that the fishery members of the Devon Fishery Committee should be paid their out-of-pocket expenses, as well as the county council members; objection to the present constitution of the board because it does not contain representative men, 8014-8031. 8047, 8048.—Dissatisfaction with the statistics taken by the Board of Trade; belief that there would be no difficulty in getting accurate returns if a proper expenditure were allowed, 8039-8046.

Decided disapproval of the methods of steam trawling, as they are not fishing methods but destroying methods, 8060-8063.

L.

LANCASHIRE:

Statement that of late years there has been an enormous diminution in the quantity of fish found in the Lancashire fishery district, *Fell* 2043, 2044. 2094. 2116-2117—Opinion that this diminution may be attributed to over-fishing and to the use of the shrimp trawl, *ib.* 2045-2050—Explanation that regulations have been made establishing a certain size of mesh and also a close time for shell fish, *ib.* 2051-2055.

Diversity of opinion as to whether the district committee has power to regulate the capture and sale of fish, *Fell* 2056—Statement that deep sea trawlers have been excluded from fishing within the territorial limit by the limitation of the length of the trawling beam to thirty feet, *ib.* 2075, 2076. 2109. 2130-2137. 2155.

Conclusion that there is a great diminution in the quantity of soles and plaice now caught, *Dunham* 2207-2209. 2250. 2295-2297. 2349—Information respecting the very large number of fishing boats on the Lancashire fishing grounds, *ib.* 2259-2264. 2348. 2362-2365—Information respecting the means taken to enforce regulations by the employment of bailiffs, who cruise about the fishing grounds in a steamer purchased for that purpose, *ib.* 2061-2074. 2123-2129.

Strong impression that the fisheries off the Lancashire coast have greatly declined both as regards the number of fish caught and the size, *Herdman* 4542-4547—Importance attached to protection of the young fish in the nurseries or shallow waters on certain parts of the Lancashire and Cheshire coast, *ib.* 4548-4557.

Statement that the catches of flounders and soles during the last six years have been unusually good, *Wright* 5565-5567. 5586, 5587—Evidence respecting the arrangement between the fishermen and the Lancashire District Fishery Committee for the use of the six-inch mesh, *ib.* 5575-5583. 5588-5595. 5662-5668.

Information regarding the moderate size of the trawl used; conclusion that its use has kept away strange fishermen, *Wright* 5630-5639. 5645-5655—Opinion that the experiments lately carried out by the Lancashire Sea Fisheries Board with regard to the habits and breeding of fish are of no practical utility, *ib.* 5673, 5674—Belief that the take of fish near Southport has not varied much during the last twenty years, *Abram* 5711-5714.

See also *Shrimp Nets and Trawls.*

Report, 1893—continued.

Lankester, Professor E. Ray. (Analysis of his Evidence.)—Explanation that the Marine Biological Association, of which witness is president, arose out of the Fisheries Exhibition, and that it has now an income of about 1,500*l.* a year, of which the Treasury contribute 1,000*l.*; collection in the first instance of a sum of 15,000*l.*, of which 5,000*l.* was given by Government, 3799-3804. 3900—Several objects sought to be accomplished by the association, its funds being altogether inadequate, though gratuitous service is given by all the officers except by the naturalists employed at Plymouth, 3802-3807. 3893-3901.

Special importance attached to the possession of a sea-going steam-ship; estimated requirement of from 5,000*l.* to 6,000*l.* for this purpose, whilst the annual cost entailed would be about 1,000*l.*, 3807-3812. 3894-3899—Large annual expenditure by the United States Government on the Fishery Commission, the estimated expenditure for 1891-92 having been 67,000*l.* including the cost of two vessels; probability that an adequate commercial result has not yet followed this outlay, 3813-3816. 3841-3846. 3876-3879.

Great difficulty in proving the definite results obtainable from further outlay in this country, as through the Marine Biological Association and the Scotch Fishery Commission: valuable results, however, from increased scientific investigations and from the spread of more reliable information among fishermen respecting the various coast fisheries, the habits of the fish, &c., 3817-3819. 3880-3885—Limited value attached to the Board of Trade fishery statistics, there being no returns showing where the fish are caught or the habitat of the crews of the boats; suggestions for ascertaining and publishing information on these points, 3819-3824. 3869, 3870.

Opinion that the more distant fisheries, of which very little is now known, have not suffered in the same way as the inshore fisheries from trawling and overfishing, 3824, 3825—Value attached to Mr. Ernest Holt's opinion that trawling should be prohibited in inshore districts, 3826-3828—Suggestion as regards a size limit that this might vary for different fisheries; reference to Mr. Holt and Mr. Cunningham as better able to speak on this point and on the subject of close time, &c., 3829-3840. 3856. 3861. 3871.

Ignorance among fishermen as to the species of young fish, and as to the habits of fish, 3838, 3839. 3872. 3885—Effect of temperature, depth of water, &c., with reference to the size of fish and their breeding habits: limited scientific research hitherto upon these points, 3847-3856—Usefulness of the Cleethorpes Laboratory, 3857—Frequent communication between the Marine Biological Society and the Scotch Fishery Board, 3858-3860—Very little communication with the Lancashire Sea Fishery Board, 3862.

Valuable results already secured from the operations of witness' association, and of the Scotch Fishery Board, though the money at their disposal is altogether inadequate in view of the enormous interests involved, 3863-3868. 3880-3885. 3893-3901—Prospect of new fishing grounds being found if funds were available for their discovery, 3885—Attention paid by witness' association to the habits of anchovies with a view to the establishment of an anchovy fishery, 3885.

Limited usefulness attached to the hatching of fish, 3886, 3887—Advantage of a close time for soles, their sale being prohibited during that period, 3889, 3860—Considerable expenditure on fisheries by some of the States in America independently of the Imperial expenditure, 3891, 3892.

Expediency of a Government grant of 3,000*l.* a-year (instead of 1,000*l.*) in aid of witness' association, together with a sum of 5,000*l.* for a sea-going steam vessel, 3899—Greater part of the income of the association now contributed by the Treasury; grant of 400*l.* a-year from the Fishmongers' Company, 3900.

Leah, George. (Analysis of his Evidence.)—Is a smack-owner and fish merchant residing at Magallagin, County Londonderry; has fished nearly all round Ireland, 5970, 5971. 6011-6017.

Statement that the local catch of flat fish has fallen off greatly through the use of the small mesh, 5972-5974. 6018, 6019—Information in regard to the cod-fishing at Lough Foyle; belief that a close season in that district would be beneficial, 5975-5984. 6009. 6020-6022—Opinion that no mesh of less than six inches should be used, 5985-5994.

Conclusion that in certain circumstances, such as the slackening of speed, the mesh of fishing nets is so far extended as to admit of the escape of immature fish, 5995-5999—Belief that stopping the sale of immature fish would be attended by beneficial results, 6000, 6001—Advisability of prohibiting steam trawlers inside a certain limit, which should be marked from headland to headland, 6002-6008. 6010.

Legislation. Contention that former inquiries and legislation on the subject of the sea fisheries have been quite useless, because they have not been based on facts and statistics

Report, 1893—continued.

Legislation—continued.

statistics, *Fulton* 3641-3643—Insufficient scientific knowledge upon the questions at issue, though legislation may be safely recommended on certain points, *Holt* 4113. 4118—Desirability of instituting further investigations before legislating on the fisheries question, *Green* 6268-6272. 6321. 6343-6347.

Lemon Soles. Doubt as to any size-limit being necessary for lemon soles, *Holt* 3960—Disapproval of any restriction on the size of lemon soles, *Cunningham* 4164. 4176—Evidence in favour of lemon soles and plaice being exempted from restrictions as to size, *Calderwood* 4358, 4359. 4365-4369. 4429, 4430. 4492-4496.

See also *Size Limit.*

Lincolnshire. Suggestion that a fishery board should be established for the Lincolnshire coast, owing to its being such a good breeding ground for soles, *Exton* 5127-5134.

See also *Grimsby. Skegness.*

Line Fishing. Conclusion that statistics show that line fishing off the east coast of Scotland, although not as profitable as trawl fishing, has not deteriorated, but has increased at the rate of twenty to thirty per cent, *Pyper* 6493-6501—Difficulty at Scarborough of making a living at line or at crab and lobster fishing, *Sheeder* 6702, 6703.

Complaints as to the great damages to lines by the Grimsby and Yarmouth trawlers, *Parkinson* 6797 *et seq.*—Power of the district committee to direct that lines should only be laid in certain places, and nets only be worked in certain other places, *Berrington* 6840, 6841.

Little, John. (Analysis of his Evidence.)—Is a smack-owner residing at Plymouth; has taken a great amount of interest in the question now before the Committee, 1281, 1282.

Disagreement with certain evidence as to the necessity for the prohibition of the landing and sale of immature fish; as regards the South Coast fisheries there is no falling off in the supply of flat fish, 1283-1285. 1290, 1291. 1314-1317. 1345, 1346. 1364-1368—Contention that the proposed prohibition would be absolutely useless unless the fishing areas where the small fish abound are also prohibited, 1286-1288. 1304. 1318. 1347, 1348. 1351, 1352.

Objection to any enlargement of the mesh of trawling nets, on the ground that they would then be practically useless, except for the capture of plaice, 1289, 1290. 1329-1332. 1342. 1344—Statement that, instead of deteriorating, the fishing round about Plymouth has of late improved owing to the absence of over-fishing, and to the constant change of fishing ground, 1292-1294. 1414.

Information respecting the constant change of venue and the long distances to which the trawlers go, 1295-1299—Assertion that the depletion complained of by the North Sea fishermen is caused by the steam trawlers, of which there are few or none down South, 1300-1303. 1336-1341. 1353-1363. 1382-1384. 1421-1432.

Suggestion that there should be a close time or that areas should be defined by international agreement and that the naval authorities should enforce their observance, 1305-1313. 1351. 1352. 1372-1375. 1435. 1447—Great damage done by the employment of seine nets, 1318—Statement that a general limitation of the size of saleable fish would be unfair to the Southern fisheries as the fish caught there are more mature than larger fish caught in the North Sea, 1326, 1327. 1333.

Denial that the price of fish has increased to any material extent, 1334, 1335—Opinion that the Belgian limit for unsaleable fish, viz., turbot and brill ten inches, and other fish seven and one-fifth inches, would be the best limit to adopt, 1396, 1370. 1434. 1455, 1456—Absence of any general demand for legislation outside Hull and Grimsby, 1376-1381. 1415.

Qualification of statement that the National Sea Fisheries Association represented 80,000 men, 1396-1398—Assertion that the Board of Trade Returns are quite misleading; details in support of this statement, 1400-1409—Opinion that great damage would be done to the fishing grounds by throwing dead fish into the sea, 1418-1420.

Lobsters. Suggestions as regards the artificial hatching of lobsters, *McIntosh* 3506-3510—Incomplete character of some experiments by witness in the breeding of lobsters, *Dannevig* 4271-4274—Necessity of enforcing the law that no lobsters under eight inches shall be sold, *Tall* 7860-7869.

Lough Foyle. Information in regard to the cod fishing at Lough Foyle; belief that a close season in that district would be beneficial, *Leek* 5975-5984. 6009. 6020-6022.

Report, 1893—continued.

Lovell, W. T. (Analysis of his Evidence.) Long experience of witness as a fried fish merchant, carrying on trade in Lambeth, 961-963—Information respecting the difficulty of carrying on business owing to the scarcity of large fish, 964-976—Statement that witness would probably have to throw away as useless about 600 fish out of every 700; 977-981.

Lowestoft. Information respecting the rise and rapid increase of the trawling industry at Lowestoft; it practically commenced in 1860, when there were but twenty vessels, *Haine* 1528-1534—Absence of any steam trawlers, *ib.* 1535. 1643. 1662—Opinion that about 13,000 people are engaged in the local fishing industries, *ib.* 1536, 1537.

Fishing grounds worked by the Lowestoft vessels roughly defined as lying between the fifty-first and the fifty-third parallels, the grounds near Heligoland not being visited, *Haine* 1539. 1634-1641. 1663, 1664—Statement showing that at Lowestoft there is universal objection to the proposed limitation of the size of fish captured or sold as being unnecessary and impracticable, *ib.* 1547-1557. 1583-1593. 1658-1660. 1689-1698.

Assertion that there are no undersized fish landed at Lowestoft, there being seldom anything under eight inches in length, *Haine* 1547-1551. 1558-1561. 1577-1580. 1659. 1655-1667—Explanation in connection with Table showing that of the fish landed there has been an increase of offal and a decrease of prime fish, *ib.* 1562-1574. 1610-1626.

Information respecting the depletion of certain fishing areas off Lowestoft; on the Swad bank, &c., there are no fish now to be caught, *Murrell* 1823-1825. 1930—Great quantities of fish formerly off the coast, the depletion of the fishing grounds being mainly due to the operations of the numerous trawlers, *Spurgeon* 4709. 4713-4717. 4756-4777—Great falling off in the number of the fish off Lowestoft, caused by over-fishing by trawlers; witness however is not prepared to suggest any restrictions on the present modes of fishing, *Swan* 4795. 4804-4819. 4821. 4829-4831. 4843-4845.

See also *East Coast. Shrimp Nets and Trawls. Trawling.*

Lynch, Michael. (Analysis of his evidence.)—Is a shopkeeper of Galway; has lived there forty years, and has taken a great interest in the fisheries, 6023-6028.

Evidence as to the great injury done to the Claddagh fishermen by the admission of trawlers into Galway Bay; there are now thirteen sailing and twelve steam trawlers at Galway, 6029-6042. 6062-6072. 6068-6087—Belief that the trawlers do great damage to the immature fish and the spawn as well as to the lines and nets of the Claddagh men, 6043-6045. 6048-6058. 6120, 6121—Suggestion that the bay should be entirely closed to trawlers from the Island of Arran, 6046, 6047. 6088-6092. 6122.

Information concerning the kinds of fishing in Galway Bay; there is no shrimping, shore-netting, or seining, 6073-6081—Statement that the fish caught by the trawlers are sent to Dublin, 6082-6085—Details as to the position and population of the Claddagh, 6093-6101.

Examination regarding the results of the experiments carried on in Galway Bay by the Government from 1873 to 1876; neither immature fish nor spawn were taken, 6102-6110—Details concerning the number of turbot, plaice, soles, and flounders caught formerly by the use of lines and nets only, 6111-6119—Statement that trawling was prohibited in Galway Bay in 1890 and 1891 by a bye-law, but it was never enforced; belief that such law could be enforced by the presence of a gun-boat, 6123-6133.

M.

Macadie, James. (Analysis of his evidence.) Witness is a net manufacturer at Wick, and has been interested in the fishing trade for many years; was the first to introduce steamers for the herring fishery, 7493-7496.

Opinion that one good swift police-boat would be sufficient to keep the coast between Kinnaird Point and Duncansby Head, if she were always steaming about on the station, 7497-7506. 7525-7531. 7539 *et seq.*—Explanation that the fishermen who have their lines destroyed can get no compensation because the trawlers that do the damage cover up their numbers to prevent identification, 7507-7509.

Utter impossibility of applying a close time for herrings with any satisfaction, owing to the variation of the seasons and the nature of the trade; failure of the herring fishery at Stornoway this season through a close time, 7510-7514—Considerable falling off in the quantity of fish due to the large amount of trawling, the haddock fishery being entirely destroyed; statement that the trawlers often come inside the three mile limit, especially on Sunday, 7515-7530. 7533 *et seq.*; 7558-7561.

Agreement

Report, 1893—continued.

Macadie, James. (Analysis of his Evidence)—continued.

Agreement of witness with Provost Dunnett that the fines are too small, 7532—
Attention called to the exorbitant railway rates for fish, 7534, 7535, 7558-7561—
Opinion that the least the Government can do is to protect the fisheries from trawling
by providing efficient sea police; suggestion that the Admiralty might commission a few
of their idle boats under the Fishery Board, 7539-7561.

McIntosh, Professor William Carmichael. (Analysis of his Evidence.)—Is professor of
natural history in the University of St. Andrews, director of the St. Andrew's Marine
Laboratory, and a member of the Fishery Board for Scotland, 3391-3393.

Opinion that the closing of certain waters against trawlers has not resulted in an
increase of the fish, 3394-3399, 3444—Belief that the spawning of food fishes takes
place in the open ocean and that the young fish gradually find their way into the
shallow waters, 3400-3402—Denial that spawn is destroyed by the action of the
trawl passing over the sea bottom, 3403-3413.

Necessity for prompt measures to be taken in order that the supply of food fish may
be maintained, 3414-3416, 3430-3432—Evidence respecting the falling off in the
capture of turbot and halibut; opinion that over-fishing rather than the introduction of
steam trawling is the cause of this deterioration, 3417-3425, 3428, 3429—Information
respecting the large quantity of immature fish caught by fishermen using small hooks,
3433-3439.

Desirability of checking the capture of plaice but seven inches long, 3441—State-
ment that plaice in Scottish waters spawn at a length not less than seventeen inches and
in the southern waters at about twelve inches, 3442, 3443—Suggestion that if a
restriction be placed upon the sale of undersized plaice the minimum legal size should
be twelve inches, 3445, 3446.

Contention that although trawlers capture a great many immature fish they destroy
comparatively few of any valuable species, 3447-3450—Opinion that any regulations
that may be made as to the capture of immature fish should extend to all classes of
fishermen, 3451-3454.

Proposition that the methods of fishing generally not only with regard to hooks but
with reference to the size of mesh of nets, &c., should be regulated, 3455-3457, 3462,
3478 *et seq.*—Suggested prohibition of the use of fish for manure, 3464-3466—
Obstacles to a close time that should extend from January to April, 3467-3477.

[Second Examination.] Reiteration of statement that the closing of certain areas
to trawlers but not to liners has resulted in but little improvement in the quantity of
fish captured; reference hereon to the experiments made by the yacht "Garland,"
3480-3485, 3612-3619—Suggestion that with a view of carrying on efficient
experiments the purchase of a large trawler is necessary, 3486-3488—Necessity for
the periodical examination of spawning areas; estimate that 2,000*l.* per annum would
cover the requisite expenditure, 3490-3492.

Recommendation that the North Sea be divided into four areas, and that each area
should be worked alternately, 3495, 3563-3573, 3620—Opinion that very few fish
live on being returned to the sea after capture, 3498, 3522-3531—Importance of the
Fishery Board having power to control all instruments used in fishing, 3498—Belief
that artificial hatching would improve the quantity of fish, 3498-3501—Explanation
in connection with Table showing the quantity and value of the fish landed in Scotland
from 1884 to 1892; 3501-3505, 3550-3559.

Opinion that the culture of oysters, &c., if properly carried out efficiently, would be
advantageous and profitable, 3505-3510—Desirability of prohibiting the sale of
lobsters less than ten and-a-half inches in length, and of crabs less than five inches in
width, 3511-3513—Statement that great damage is done by the destruction of ripe
fish, witness advocating the institution of a close time and other precautions, 3516-3518
—Belief that an increase in the size of the mesh of fishing nets would be most
beneficial, 3532-3536—Extension of the five-mile limit to eleven or twelve miles
recommended, 3537, 3538.

Opinion that the great increase of trawlers has been attended by a corresponding
decrease in the number of liners and consequently has had but little effect on the
alleged diminution of the fish, 3540-3549, 3594-3604—Grounds for conclusion that
the returns of fish caught are far from complete; suggestion that each fisherman should
give particulars of his catch to the harbour-master or some other responsible person,
3553-3558—Proposed establishment of hatching places at Dunbar, St. Andrews and
Aberdeen, 3574-3580.

Further reference to the great advantages that would be attendant on the artificial
hatching of fish, 3581-3593—Insufficiency of the present knowledge as to the
migration of herrings, 3605-3610—Statement that the proposed division of the sea
into areas would necessitate a more complete system of international police, 3621-3628

McIntosh, Professor William Carmichael. (Analysis of his Evidence.)—continued.

—Opinion that the fjords of Norway are suitable for hatching, as would also be creeks with concrete walls, 3629–3631 — Difficulty of fixing the exact age at which fish mature, 3632–3635.

McKenna, Peter Fraser. (Analysis of his Evidence.)—Witness is a solicitor at Girvan and a member of the Ayrshire County Council; has taken considerable interest in the fishery question on the south west coast of Scotland, 6851–6855.

Evidence to the effect that the chief fishing on the Ayrshire coast is for herrings and cod, there being a summer and a winter herring fishery; considerable falling off in the winter herring fishery of late years, 6856–6866. 6918–6921. 6929, 6930—Statement that the local method of fishing in winter is by means of a single wall set trammel net about 240 fathoms long; use of the seine net by some of the boats that come from the Argyleshire coast, 6867–6876.

Grounds for the strong opposition on the part of the local fishermen to the use of the seine net, the chief being that it is wasteful and destroys the trammel nets; inclination of the Fishery Board to take a somewhat limited view of their powers of prohibiting seine net fishing, 6875–6892. 6937, 6938. 6949–6951 — Considerable disturbances between the two classes of fishermen on account of the seine nets intercepting and breaking up shoals of herrings heading for the Ballantrae Banks, 6887–6892. 6922–6925.

Doubt as to the advantage of anything in the shape of a close time on the Ayrshire coast; attention drawn to the fact that the close time of 1860–1868 reduced the fishermen to the verge of starvation, 6895–6900. 6926–6928 — Recommendation that the use of the seine net should be prohibited on the Ayrshire coast from December to March; non-objection to the competition of the Argyleshire fishermen, 6899, 6900. 6931–6936. 6943–6951.

Statement that beam-trawling has been prohibited in witness's district since 1889; 6901–6906 — Opinion that the machinery for carrying out the election of the district boards is not made sufficiently clear in the Sea Fisheries Regulation Bill; criticism of some of the details of the Bill, 6908–6917.

General feeling all along the Scotch coast that a better police protection should be afforded to sea fishermen; proposal that the policing of the coast should be placed under the Scotch Fishery Board, 6924, 6925. 6939–6943. 6952–6962.

Mackerel. Great deterioration in the mackerel fisheries, *Maconochie* 5775–5777 — Belief that the hatching process might advantageously be applied to the mackerel fisheries, *ib.* 5815–5827.

Details of the falling off in the mackerel fishing on the south coast of Ireland, opinion that the recent development of autumn fishing and the use of the American purse seines may have a prejudicial effect, *Green* 6225–6232. 6284–6287 — Information respecting the successful mackerel fishing off Galway; Table handed in showing the quantity of fish taken, *ib.* 6277, 6278. 6300. 6310.

McNaughton, John L. (Analysis of his Evidence.)—Witness is central secretary to the Moray Firth Fisheries Association, which represents all the towns and villages between Fraserburgh and Wick, 6963–6967.

Evidence to the effect that the white fishing in the Moray Firth has been falling off for the last few years, the beam-trawlers not having been excluded long enough to benefit the fishing much, 6968–6977 — Statement that about twenty years ago, before trawling became common in the Moray Firth, a fair average shot would be eighteen cwt. of haddock, but that now ten cwt. is considered a good average catch, and the men have to work much harder to get it, 6978.

Absolute necessity of making the exclusion of trawlers from the Firth a permanency, 6979–6981 — Strong desire of the Moray Firth fishermen that trawlers should be prohibited from going on any part of Smith's Bank, 6981. 7111, 7112.

Decided opinion that trawlers should be prevented from going on the herring spawning or breeding grounds outside territorial waters, at all events at certain seasons of the year, 6981–6986. 7113 — Absence of necessity for any close time for white fish so far as line fishermen are concerned; proposal that February and March should be a close time for trawlers, 6987–6992. 7092.

General feeling of witness' association in favour of a close time of about a month for herring fishing, the only dissentients being the Macduff men; reasons why a close time is required, the chief being that it would proportion the supply of fish to the demand and maintain prices, 6993–7016. 7087–7091 — Failure of the herring fishery on the West Coast of Scotland this year; theory of practical fishermen that the very poor fishing in the Minch is due to the exceptionally fine weather, 6993–7003.

View of witness that the Fishery Board for Scotland might very well regulate the close time; opinion that two different periods would be sufficient for the East Coast of Scotland, 7017–7023 — Desire of the association that steam trawling should either be abolished

McNaughton, John L. (Analysis of his Evidence)—*continued.*

abolished or strictly regulated; proposal that steam trawlers should be kept at a distance of ten miles from the sea-board, 7024 *et seq.*; 7084-7086. 7110.

Destruction of a great quantity of immature fish, and damage to spawning beds by the steam trawlers; contention that the progress of the trawl over the bottom of the sea destroys the feeding ground, 7028-7052—Evidence in support of the opinion that steam trawlers really depopulate the portion of the sea in which they work; necessity of the trawlers and line fishermen going further and further from shore as the industry develops, 7053-7069. 7097. 7109.

Frequency of cases of damage to lines by steam trawlers before the Firth was closed to trawlers; impossibility of getting sufficient evidence for a prosecution, 7059-7061—Anxiety of the Moray Firth fishermen that there should be an efficient police supervision at the line closing the Firth; view of witness that the Fishery Board ought to have the control of the sea police in charge of the fisheries, 7061-7064.

Attention drawn to the possibility of the charge for the sea police, under the Sea Fisheries Regulation Bill, falling heavily on a district that could ill afford to pay it, while a rich district might have very little sea policing to do, 7065-7069—Strong feeling of the Association against Sunday trawling; acknowledgment of the difficulty of prohibiting trawling outside the three-mile limit on Sunday, 7070-7072.

Inadequacy of the harbour accommodation in the Moray Firth district, while there is a very great and increasing number of large fishing boats there; certainty that unless something is done soon a large portion of the population will have to emigrate, 7073 *et seq.*—Advisability of the Fishery Board going thoroughly into the question of harbour accommodation, and being given the power of borrowing the sums necessary to improve the present harbours wherever possible, 7076-7083. 7093-7096.

Macnochie, A. W. (Analysis of his Evidence.)—Is engaged in the herring fishing at Fraserburgh and Lowestoft; has been interested in curing and preserving for the last twenty-five years, 5731-5735.

Evidence showing that the establishment of a close time for herrings is absolutely unnecessary; opinion that no restrictions whatever should be placed on the capture of herrings, 5736. 5751. 5756-5762. 5786. 5851-5855—Details concerning the disastrous results experienced this year by the Stornaway fishermen through their having established a close time a few years ago; they estimate their loss at 75,000*l.*; 5736-5743. 5752-5754. 5911-5918. 5922-5930—Belief that herrings spawn twice a year, 5744-5750. 5778-5780.

Information as to the falling off in the take of prime flat fish in the North Sea; belief that it has been caused by over-fishing, and that it could be remedied by preventing the landing and sale of immature fish, 5763-5766. 5803-5805. 5828, 5829. 5836-5888—Details respecting the limits of size at which fish should be sold; opinion that an average should be taken between maturity and the very small sizes, 5767-5774. 5830-5834. 5861-5870.

Great deterioration in the mackerel fisheries, 5775-5777—Examination as to the difference in the character of fish caught in various parts; belief that it depends on the feeding grounds, 5781-5785—Opinion that further teaching is not necessary as far as the Scotch fishermen are concerned, 5787-5798.

Evidence as to the desirability of opening up new markets for the sale of fish, 5798-5801. 5931, 5932—Objection of witness to closed areas owing to the difficulty in preventing fishermen from using them, 5806, 5807. 5889-5897—Belief that the hatching process might with advantage be applied to the mackerel fisheries, 5808-5814—Conclusion that the Irish mackerel fisheries might be improved by practical men being sent over to impart instruction in fish-curing, 5815-5827.

Particulars concerning the herring fisheries of England and Scotland; belief that the herrings do not work down from Scotland, as there are distinct differences in the fish caught at various stations, 5835-5842—Impossibility of accounting for the irregularity of the advent of herrings, 5844, 5845—Evidence respecting the objection of Scotch fishermen to steamers in the herring fisheries, 5848-5850.

Information as to the prohibitive railway rates on fresh fish, especially herrings; estimate that only 3 per cent. of those caught are sent by rail, 5856-5860—Belief that most of the small fish taken are caught off the low-lying grounds of Holland, and that no harm whatever is done by shrimpers, 5871-5875—Facility with which the landing and the sale of fish might be supervised, 5898-5902.

Further details as to the great cost of the transit of herrings by rail, 5903-5910—Information respecting the Norwegian herring fisheries; competition from that quarter has resulted in closing the winter fishing in Scotland, 5933-5935. 5938, 5939—Desirability of a strict maintenance of the brands in order to keep up the standard of cure, 5936, 5937.

Manure. The very small fish fetch nothing, even for manure, *Wallis* 939-941—Necessity for the prohibition of the use of fish for manure, *McIntosh* 3464-3466.

Marine Biological Association. Explanation that the Marine Biological Association arose out of the Fisheries Exhibition, and that it has now an income of about 1,500*l.* a year, of which the Treasury contribute 1,000*l.*; collection in the first instance of a sum of 15,000*l.*, of which 5,000*l.* was given by Government, *Lankester* 3799-3804. 3900—Several objects sought to be accomplished by the Association, its funds being altogether inadequate, though gratuitous service is given by all the officers except by the naturalists employed at Plymouth, *ib.* 3802-3807. 3893-3901.

Special importance attached to the possession of a sea-going steamship; estimated requirement of from 5,000*l.* to 6,000*l.* for this purpose, whilst the annual cost entailed would be about 1,000*l.*; *Lankester* 3807-3812. 3894-3899—Frequent communication between the Marine Biological Society and the Scotch Fishery Board, *ib.* 3858-3860—Very little communication with the Lancashire Sea Fishery Board, *ib.* 3862.

Valuable results already secured from the operations of witness' Association and of the Scotch Fishery Board, though the money at their disposal is altogether inadequate in view of the enormous interests involved, *Lankester* 3863-3868. 3880-3885. 3893-3901—Expediency of the Government grant being increased to 3,000*l.* a year, *ib.* 3899—Greater part of the income of the Association now contributed by the Treasury; grant of 400*l.* a-year from the Fishmongers' Company, *ib.* 3900.

Importance of the provision of a vessel properly fitted at the disposal of the Association; employment of three vessels in the United States fisheries, *Günther* 3901. 3921-3925.

Witness (who is a naturalist on the staff of the Marine Biological Association) has been stationed at Grimsby for about eighteen months and has made several trips in trawlers working from that port; great disadvantage through his not having a vessel under his own control, *Holt* 3930-3938. 3941, 3942. 4099, 4100.

Markets. Evidence as to the desirability of opening up new markets for the sale of fish, *Maconochie* 5798-5801. 5931, 5932.—See also *Railway Rates*.

Masters and Mates (Fishing Vessels). Statement that all the masters and mates of vessels from twenty-five tons and upwards are certificated men, *Alward* 223, 224.

Medina Oyster Fisheries. See *Oysters*.

Mesh of Nets. See *Nets*.

Middlemen. Desirability of there being more direct communication between producer and consumer, and of the middleman's profit being reduced; advisability of extending the co-operative supply system, as at Grimsby, *Montague* 7745-7747.

Migration of Fish. Grounds for the conclusion that fish do not change their localities, *Caseley* 1786.—See also *Herring Fisheries*, 3.

Mitchell, John. (Analysis of his Evidence.)—Witness is baillie of the burgh of Peterhead; has been engaged as a fish dealer and curer for the last twenty-five years and represents the fishing community of the burgh, 7615-7619.

Grounds for witness' opposition to the fixing of a close time for herrings; statement that the fishermen of Peterhead and Fraserburgh, who represent the vast majority of the herring fishery off the north-east coast of Scotland, are decidedly against a close time, 7619-7639. 7709-7711—Standing grievance caused by the excessive railway rates, especially for the English markets, 7625-7627.

Doubt as to the willingness of the Dutch and French to agree to a close time for herrings, 7639, 7640—Statistics in connection with the haddock fishery at Peterhead, showing that while the boats have increased from seventy-eight to 128 since 1887, the amount of fish caught has not substantially increased, and the earnings per man have diminished; universal opinion that this unsatisfactory result is due to trawlers, 7641-7667.

Statement that the closing of the Moray Firth to trawlers has been a serious thing to witness' district, as the trawlers driven from the Firth have come to the Aberdeen coast; recommendation that the limit for trawlers should be extended to twelve or fourteen miles from the coast, 7662-7675. 7712-7721—Desirability of a trial being made of a close time for haddocks during March, if the extension of the territorial limit be impossible, 7676-7679.

Belief that if one or two efficient police boats were put on the Aberdeen coast they would soon cure the evil of trawling in in-shore grounds; non-objection to the fishery districts paying for the vessels if the Imperial Exchequer will not pay for them, 7680-7688. 7727-7729—Suggestion of the establishment of hatcheries for white fish as a remedy for over-fishing, 7689-7695.

Attention

Report, 1893—continued.

Mitchell, John. (Analysis of his Evidence.)—continued.

Attention drawn to the fact that the want of harbour accommodation is severely felt at Peterhead; opinion that the north arm of the present harbour of refuge should be made at once, instead of waiting until the south arm is finished, 7696-7708, 7722-7726.

Montagu of Beaulieu, Lord. (Analysis of his Evidence.)—Considerable experience of witness in connection with oyster culture in the Beaulieu River, which is tidal from Beaulieu to the sea, the beds having been formerly in the hands of the Alston family, and having been largely used for growing oysters, brought from elsewhere, for removal to Whitstable, 4645-4650—Failure of the Beaulieu fishery, before it came into the possession of witness, the scarcity of oysters on the beds having been caused by over-dredging; large oyster trade formerly carried on at the fishery, 4647-4654.

Failure of the beds generally along the English coast, witness feeling satisfied that this is due to over-dredging, 4651, 4652—Information as to the beds at Arcachon and elsewhere in France, and as to the successful results from the restrictions placed upon dredging, witness advocating similar regulations in this country, 4655 *et seq.*—Equally successful results obtained in the Scheldt from the restrictions upon dredging, 4655, 4657.

Suggestions as to the gradual application of restrictions, so as not to interfere too much with fishermen by doing all the beds at once, 4658-4661, 4666-4668—Importance attached to oysters being not less than about four years old for spitting purposes, 4661, 4662, 4663—Failure of experiments by witness and others to replenish the beds by artificial breeding in ponds; some prospect, however, of eventual success, 4663-4665, 4674, 4675, 4688-4691.

Decided approval of a close time for oysters, 4666-4668—Enormous import of oysters, whereas the British oyster is probably superior to all others in quality, 4676, 4677—Calculation that about 25 per cent. of oysters spat in any one year, 4679-4682—Conclusions as to the effect of temperature in regard to spitting, 4684-4687—Question of a close time applying to the sale of French oysters in England, 4692-4694.

Montagu, The Hon. John Scott. (Member of the House.)—(Analysis of his Evidence.)—Witness has had considerable experience of all kinds of fishing with the net and of trawling, principally on the south coast, 7730-7732.

Certainty that the fish, especially the round fish, are getting scarcer every year; diminution due to a certain extent to local reasons, such as the great increase in steamship traffic and the continual firing of big guns at both ends of the Solent, 7733, 7734, 7741, 7742—Scarcity also, on the whole, of shrimps and prawns; possibility that they are over-fished in places and fished, perhaps, at times when they are in a spawning condition, 7735-7737.

Evidence to the effect that the chief mode of fishing on the south coast is trawling by small boats worked by local fishermen; absence of any regular steam-trawling industry, 7735-7740—Belief that the practice of selling under-sized fish has a good deal to do with the scarcity of fish; opinion that it would be wiser and more practical to fix a limit as to the fish to be sold than to fix the size of the mesh, 7742-7744, 7748.

Desirability of there being more direct communication between producer and consumer, and of the middleman's profit being reduced; advisability of extending the co-operative supplies system at Grimsby, 7745-7747—Necessity of the Board of Trade being given more stringent powers to prevent the deposit of dredgings on fishing grounds, 7748.

Impracticability of prohibiting fishing on certain grounds in the Solent; disapproval of any further restrictions on trawlers, 7749-7752.

Moody, Samuel. (Analysis of his Evidence.)—Is an inshore fisherman of Skegness; has been chosen by the local Association to represent the fishermen of that district, 5019-5023, 5054.

Information as to the fishing, which consists principally of small flat fish never larger than seven inches, caught in the shrimp nets along the shore, 5024-5039, 5059-5065—Statement that fish are caught with ripe spawn in them in May and June, 5041.

Estimate that a catch of about seventy saleable flat fish constitutes a good day's work, 5042-5044—Belief that there has been no alteration in the take of fish, 5049-5053—Explanation respecting the opposition of the fishermen to the District Fishery Board; statement that none of its members are fishermen, 5055-5058, 5066-5071.

MORAY FIRTH:

Objection to such a large area as the Moray Firth having been closed to trawlers, *Pyper* 6457-6463.

Representations on the part of the Moray Firth Fisheries Association, which comprises all the towns and villages between Fraserburgh and Wick, *M'Naughton* 6963 *et seq.*—Evidence to the effect that the white fishing in the Moray Firth has been falling off for the last few years, the beam-trawlers not having been excluded long enough to benefit the fishing much, *ib.* 6968-6977.

Statement that about twenty years ago, before trawling became common in the Moray Firth, a fair average shot would be 18 cwt. of haddock, but that now 10 cwt. is considered a good average catch, and the men have to work much harder to get it, *ib.* 6978—Absolute necessity of making the exclusion of trawlers from the Firth a permanency, *ib.* 6979-6981—Strange desire of the Moray Firth fishermen that trawlers should be prohibited going on any part of Smith's Bank, *ib.* 6981. 7111, 7112.

General feeling of witness' Association in favour of a close time, of about a month for herring fishing, the only dissentients being the Macduff men; reasons why a close time is required, the chief being that it would proportion the supply of fish to the demand and maintain prices, *ib.* 6999-7003—Desire of the Association that steam-trawling should either be abolished or strictly regulated; proposal that steam-trawlers should be kept at a distance of ten miles from the seaboard, *ib.* 7024 *et seq.*; 7084-7088. 7110—Frequency of cases of damage to lines by steam-trawlers before the Firth was closed to trawlers; impossibility of getting sufficient evidence for a prosecution, *ib.* 7059-7061.

Anxiety of the Moray Firth fishermen that there should be an efficient police supervision at the time of closing the Firth; view of witness that the Fishery Board ought to have the control of the sea police in charge of the fisheries, *ib.* 7061-7064—Inadequacy of the harbour accommodation in the Moray district, while there is a very great and increasing number of large fishing boats there; certainty that unless something is done soon a large portion of the population will have to emigrate, *ib.* 7073 *et seq.*

Assertion that notwithstanding the Moray Firth has been scheduled against trawlers for three miles, they are still trawling there within a mile of the shore, the sea police not being sufficient, *Dunnett* 7384-7387. 7419-7421. 7455-7457. 7464 *et seq.*

See also *North Sea Fisheries. Scotland.*

Munn, Hugh. (Analysis of his Evidence.)—Witness comes from Tiree, where he is occupied in catching and selling fish, 7274-7277.

Evidence to the effect that the principal fish caught on the Tiree coast are ling and cod, which are caught on the long line, 7278-7280. 7289-7296—Statement that this year the Tiree fishermen have had to go a long way to the back of the Skerryvore Rock to fish, in order to keep clear of the steam-trawlers, their lines not being safe on the banks where they used to fish, 7280-7285. 7309 *et seq.*; 7321-7332.

Complaint that trawlers, in addition to damaging the lines, spoil the beds of spawn, 7285-7288—Advisability of an arrangement under which linesmen only would be allowed to fish from February to July, and trawlers only for the remainder of the year, so as to remedy the evils complained of, 7297-7308. 7333-7338.

Recent instance in which a fishing boat had its lines destroyed by three trawlers; compensation received, 7310-7318—Practice of the Tiree fishermen to cure their fish and keep it until they have two or three tons, when it goes direct by steamer to Glasgow; conveyance of witness' fish by the "Dunara Castle" in consequence of the three companies agreeing to raise the rate of freight, 7339-7351.

Murrell, Joseph. (Analysis of his Evidence.)—Is a fish salesman at Billingsgate and manager of the Grimsby Ice Company's fleet in London; has had great experience of the fish industry, 1821-1823. 1825.

Information respecting the depletion of certain fishing areas of Lowestoft; on the Swad Bank, &c.; there are no fish now to be caught, 1823-1825. 1930—Evidence as to the great deterioration of the fishing off Grimsby; determination not to fish in certain areas, 1825, 1826. 1861-1864. 1930-1932—Details showing the great falling off in the quantity of fish caught, despite the fact that more vessels are engaged than was formerly the case, 1827-1843. 1858-1860. 1865, 1869.

Opinion that this deterioration is caused by the capture of the small fish, 1844-1847—Belief that the restriction of the sale of immature fish would be the best means of preventing the decline of the fisheries, 1848, 1849. 1877, 1878. 1886. 1902-1905—Conclusion that if the fishing industries of Ramsgate, Lowestoft, and Plymouth had increased in the same proportion as those of Grimsby and Hull there would be an equal falling off in the fisheries of those places, 1850-1852.

Admission

Report, 1893—*continued.*

Murrell, Joseph. (Analysis of his Evidence)—*continued.*

Admission that steam trawlers do a certain amount of damage, but not so much as suggested by previous witnesses, 1853. 1879-1885. 1895—Reference to the serious falling off in the catch of soles, 1867-1872—Opinion that a larger size than that recommended by the Protection Association should be adopted as the minimum limit for saleable fish, 1874—Belief that the closing of certain areas would be most beneficial to the fisheries, 1906-1929.

N.

National Sea Fisheries Protection Association. Explanation of the objects of the Association (of which witness has been honorary secretary since 1888), *Towse* 1-6—Estimate that the Association and its affiliated bodies in England and Scotland represent about 80,000 men, *ib.* 7-9. 74-78. 117-124. 159, 160. 177, 178—Evidence in detail explanatory of the views of the Association, and of the action taken, upon the subject of the protection and improvement of the sea fisheries, *ib.* 10 *et seq.*

Qualification of statement that the National Sea Fisheries Association represent 80,000 men upon the questions under consideration of the Committee, *Little* 1396-1398.

NETS:

1. *As to the Size of the Mesh; Conflicting Evidence on the Question of Enlargement.*
2. *Seine Nets.*

1. *As to the Size of the Mesh; Conflicting Evidence on the Question of Enlargement:*

Information as to certain experiments made with trawling nets of a larger mesh than usual; capture of immature fish diminished by their use, *Alward* 381-385. 393-397. 405, 406—Opinion that the size of the mesh of fishing nets has very little to do with the capture of immature fish, *Toozes* 488-490. 560, 561; *Pickering* 861-864.

Objection to any enlargement of the mesh of trawling nets, on the ground that they would then be practically useless except for the capture of plaice, *Little* 1289, 1290. 1329-1332. 1342-1344—Concurrence in the view as to the impracticability of preventing the capture of immature fish by an extension of the size of the mesh of trawling nets, *Hume* 1585-1587; *Caseley* 1748. 1766-1788; *Esslemont* 3176-3178; *Spurgeon* 4710-4712; *Kent* 8010, 8011. 8032-8038.

Advocacy of proposals for increasing the size of the mesh of trawling nets, *Jex* 1965. 1972. 1984-1988; *Dawson* 2224. 2345-2347. 2369. 2390, 2391; *McIntosh* 3532-3536; *Holt* 4005. 4096-4100; *Wright* 5568, 5569. 5640-5644—Information respecting the damage done by the use of improper nets; suggestion that there should be a general overhauling and restriction as to smallness of mesh of all the fishing nets used, *Jex* 1965-2007.

Reference to the regulation passed by the Lancashire Committee fixing the size of mesh at seven inches, which will capture only fish of reasonable size, *Fell* 2051-2054—Dissent from certain evidence as to the uselessness of nets with a large mesh for sole fishing, *ib.* 2121, 2122. 2188—Details of experiments made with different sizes of mesh; opinion that the seven-inch mesh should be used for plaice, *Dawson* 2265-2266. 2272. 2309-2321. 2341—Proposition that the methods of fishing generally not only with regard to hooks, but with reference to the size of mesh of nets, &c., should be regulated, *McIntosh* 3455-3457. 3462. 3478 *et seq.*

Doubt as to the practicability of protection by restricting the size of the mesh of the net, *Cunningham* 4161; *Calderwood* 4375. 4497, 4498—Size of mesh used by trawlers at Plymouth and at Brixham; opinion that fish too small for market are not taken with the six-inch mesh, *Cunningham* 4212-4219. 4225-4228.

Evidence respecting the weight of a good catch with the seven-inch mesh; there would be very few small fish amongst them, *Abram* 5701-5710—Opinion that the regulation of the size of the mesh is beneficial, but that any further legislation is unnecessary, *ib.* 5715-5720.

View of witness that no mesh of less than six inches should be used, *Leek* 5985-5994—Conclusion that in certain circumstances, such as the slackening of speed, the mesh of fishing nets is so far extended as to admit of the escape of immature fish, *ib.* 5995-5999.

Information as to the small quantity of immature fish caught by the Aberdeen trawlers

NETS—continued.

1. *As to the Size of the Mesh; Conflicting Evidence, &c.*—continued.

trawlers owing to the six-inch mesh being used, *Pyper*, 6477-6481. 6608-6612 — Evidence as to the desirability of making a six-inch mesh compulsory, *ib.* 6520-6522. 6576-6578. 6638-6640.

Abstract of the bye-laws in force in the different fishery districts as regards the size of the mesh, &c., *App.* 381.

2. *Seine Nets:*

Grounds for the strong opposition on the part of the Ayrshire fishermen to the use of the seine net, the chief being that it is wasteful and destroys the trammel nets; inclination of the Ayrshire Fishery Board to take a somewhat limited view of their powers of prohibiting seine net fishing, *McKenna* 6875-6892. 6937, 6938. 6949-6951 — Considerable disturbances between the two classes of fishermen on account of the seine nets intercepting and breaking up shoals of herrings heading for the Ballantrae Banks, *ib.* 6887-6892. 6922-6925.

Recommendation that the use of the seine net should be prohibited on the Ayrshire coast from December to March; non-objection to the competition of the Argyllshire fishermen, *McKenna* 6899, 6900. 6931-6936. 6943-6951.

Great damage done by the employment of seine nets, *Little* 1318 — Comparative destructiveness of the large and tuck seines, *Scott* 4988-4996.

Consideration by the Committee of complaints as to the damage caused by the use of seine nets for catching herrings off the coast of Ayrshire, *Rep.* vi.

Opinion that the question of the use of seine nets is one which should fall within the province of a local district sea fishery committee, who should make regulations on this and other matters, as they arise from time to time, *Rep.* vi.

See also *Immature Fish.* *Shrimp Nets and Trawls.* *Trawling.*

New Fishing Grounds. Prospect of new fishing grounds being found if funds were available for their discovery, *Jankester* 3885.

Newton Ferrers (Devon). Representations on the part of the shell fishermen of Newton Ferrers, *Tall* 7853 *et seq.*

Normington, William Crossley. (Analysis of his Evidence.)—Is an admiral of the Grimsby trawling fleet; has occupied that position for seven years, 1061-1069. 1139.

Statement that during the last ten years there has been a marked decrease in the quantity and bulk of the fish caught, 1070-1077. 1112-1121. 1163 — Information respecting the fishing grounds of the North Sea; some of them, such as the Dogger Bank, have become quite unprofitable, 1078-1082. 1196-1203. 1117, 1218.

Evidence respecting the falling off in the size of the fish; this deterioration is most marked in the case of plaice, 1083 — Reference to the unprofitable nature of the sole fisheries on the German coast, in spite of the fact that the price obtained is about ten times as much as it was formerly, 1089-1094. 1136-1138. 1140-1142 — Grounds for the opinion that prohibiting the landing and sale of immature fish would effectually remedy the existing state of things, 1094-1096. 1106. 1110. 1122-1126. 1133-1135. 1154-1159. 1167. 1223-1228. 1254, 1255. 1262. 1265-1272.

Belief that very few fish would live after being caught and then put into the sea again, even though the length of haul were reduced to two hours, 1097-1102. 1105. 1127. 1170-1174. 1235 — Impracticability of carrying into effect any law merely prohibiting the capture and not the sale of small fish, 1103, 1104. 1106, 1107. 1167 — Opinion that the practice of throwing dead fish into the sea tends to drive the living fish from the neighbourhood, 1128-1132.

Satisfaction to be given if the suggested prohibition of landing and sale extended to the British Islands only and were not made the subject of an international law, 1134, 1135. 1152, 1153. 1204 — Conclusion that the deterioration of the fishing grounds may in a measure be ascribed to the introduction of steam trawlers, 1164-1166. 1219-1222. 1256-1259 — Large quantities of immature plaice taken when fishing for soles, 1182-1185 — Opinion that scientific teaching might, with great advantage, be applied by the fishing industries, 1195-1198 — Statement that the Dutch do very little fishing means of trawlers, 1204, 1205.

Suggestion that the minimum size of soles permissible for sale should be eight inches, 1229-1234. 1263 — Experience of witness that the fish as a rule are larger in deep sea than they are in shallow waters, 1242, 1243 — Opinion that the prohibition of the sale of immature plaice should extend to any of that species of fish under nine or ten inches in length, 1264 — Belief that this prohibition would not injure the livelihood of the present fishermen, 1272.

Report, 1893—continued.

NORTH SEA FISHERIES :

Evidence as to the beneficial results arising from the action of the Hull trawlers in abstaining from fishing in certain parts of the North Sea, *Toose* 80-87—Examination in detail as to the locality of the best fishing grounds in the North Sea; the principal place where undersized fish abound is near Heligoland, *Alward* 229-233. 271-275. 283-287. 314-316. 327-330—Statement that notwithstanding the increase in the number of vessels and the improvement of appliances the annual catch per vessel has decreased enormously; details and figures given in support of this assertion, *ib.* 234-257. 317-324. 352-355. 421-424—Estimated catch of fish per vessel in 1875 about 80 cwt. of soles and prime fish, 550 cwt. of plaice, and 1,000 cwt. of haddock, *ib.* 234-236—Opinion that the falling off in the product of the fishing is mainly due to increase of vessels and to the immense capture of immature fish, *ib.* 258-263.

Belief that on certain grounds the fishing has improved by catching all that comes to the net, *Toose* 498, 499—Estimate that about 95 per cent. of the fish caught near Heligoland are under-sized, *ib.* 500-502. 584-587—Information as to the great distances the vessels are obliged to go in order to find good fishing grounds, *Simpson* 755-760. 784-788. 791.

Particulars respecting different fishing grounds of the North Sea: some of them, such as the Dogger Bank, have become quite unprofitable, *Normington* 1078-1082. 1199-1203. 1217, 1218—Details showing the great falling off in the quantity of fish caught, despite the fact that more vessels are engaged than was formerly the case, *Murrell* 1827-1843. 1858-1860. 1865, 1866.

Statement that the international arrangements with regard to the North Sea have worked most satisfactory, *Berrington* 2444—Opinion that there is no doubt that the fisheries for flat fish are seriously deteriorating, *ib.* 2450—The proposed legislation as regards immature fish might retard the rapid deterioration of the North Sea fisheries but would have little effect in improving them, *ib.* 3042, 3043.

Result of witness' observations that he believes there has been a considerable depletion of the North Sea fisheries, *Günther* 3902, 3903—Conclusion that there has been an immense depletion of the fisheries, and that on the eastern grounds there has been a great diminution of large fish, such as plaice, *Holt* 3939-3942. 3962, 3963. 4119, 4120—Beneficial effect upon the North Sea fisheries generally by some check upon over-fishing on the eastern grounds; migration of fish adverted to hereon, *ib.* 3966-3968. 4065-4070.

Recommendation that the North Sea be divided into four areas, and that each area should be worked alternately, *McIntosh* 3495. 3563-3573. 3620—Necessity of a thorough investigation of the North Sea fisheries and the condition of the spawning grounds, to be followed by international protective regulations, *Dannevig* 4284-4289. 4336.

Decided depletion in the North Sea and elsewhere which demands some remedy, *Calderwood* 4346-4349—The take of flat fish has been falling off during the last ten years, *Hatton* 5165-5169—Objection to the taking of immature fish, especially in the areas near Heligoland and off the North German coast, *ib.* 5242-5252—Information as to the falling off in the take of prime flat fish in the North Sea; belief that it has been caused by over-fishing and that it could be remedied by preventing the landing and sale of immature fish, *Macnochie* 5763-5766. 5803-5805. 5828, 5829. 5876-5888.

Analysis of length of hauls on different North Sea grounds, *App.* 400.

Concurrence of evidence as to the great falling off in the number and size of soles, plaice, &c., in the North Sea fisheries, *Rep.* iv.

Conclusion as to the expediency of an international conference of the powers who border on the North Sea, and of the adoption of uniform regulations, *Rep.* iv, v.

See also *East Coast. Plaice. Soles. Trawling.*

Norway. Extensive falling off in the Norwegian coast fisheries during the last twenty years through over-fishing; reference especially to cod, flat fish, and mackerel, *Dannevig* 4256. 4307-4314. 4323—Information respecting the Norwegian herring fisheries; competition from that quarter has resulted in closing the winter fishing in Scotland, *Macnochie* 5933-5935. 5938, 5939.

O.

Oatley, George. (Analysis of his Evidence.)—Is a dredgerman in the service of the Medina Oyster Company; has been in that service for twenty-six years, and is thoroughly conversant with the culture of oysters, 2575-2581.

Assertion that the French oyster spats freely in British waters; production of specimens in support of this statement, 2582-2587. 2603-2609. 2640-2641—Large amount of

Report, 1893—continued.

Oatley, George. (Analysis of his Evidence)—continued.

of spat cast by the relaid French oysters in 1887; 2588-2591—Statement that 90,000 French oysters were laid down in 1887; details concerning their spawning, 2597-2602. 2610-2615.

Evidence showing how oyster spat is deposited, and the extent it is affected by climatic conditions, 2618-2623. 2643-2653—Opinion that oysters are unwholesome during the spatting time, 2624-2627—Statement that up to two years witness can readily distinguish between British and foreign oysters, but not afterwards, 2636.

Ostend Fishermen. Recent instance of trawling by an Ostend boat within two miles from Lowestoft, *Swan* 4810-4819.

Over-fishing. Reference to the deterioration in the fisheries through over-fishing; opinion that unless protective measures be taken the supply of flat fish will be seriously impaired, *Pickering* 887-893—Conclusion that the decrease in the catch of prime fish is caused by the over-fishing of the North Sea, *Hame* 1583. 1596, 1597. 1657. 1704. 1715.

Belief that if the fishing operations of Ramsgate, Lowestoft, and Plymouth had increased in the same proportion as those of Grimsby and Hull, there would be an equal falling off in the fisheries of those places, *Murrell* 1850-1852—Concurrence in the view that over-fishing is the cause of the deterioration in the fisheries, *Jez* 1981-1983; *Berrington* 2430; *Fulton* 3657-3660—Evidence respecting the falling-off in the capture of turbot and halibut in the Scotch fisheries; opinion that over-fishing rather than the introduction of steam trawling is the cause of this deterioration, *McIntosh* 3417-3425. 3428-3429.

See also *Close Time.* *Immature Fish.* *North Sea Fisheries.* *Trawling.*

OYSTERS:

1. *Conflicting Evidence on the Question of a Close Time for French and other foreign Oysters during the Spatting Season; varying Opinions as to their Wholesomeness during the Summer Months.*
2. *Characteristics of British and Foreign Oysters respectively, with special reference to Spatting.*
3. *American Oysters.*
4. *Diminution of the Native or Home Supply; Causes to which due.*
5. *Beaulieu River Fishery.*
6. *Artificial Propagation.*
7. *Over-dredging.*
8. *Statistics of Import, Price, &c.*
9. *Conclusions of the Committee.*

1. *Conflicting Evidence on the Question of a Close Time for French and other foreign Oysters during the Spatting Season; varying Opinions as to their Wholesomeness during the Summer Months:*

Statement, drawn up by witness, with regard to the views of the Fishmongers' Company as to the question of the sale of foreign oysters during the close time in England, *Towse* 2466, 2467.

Opinion that oysters imported into England during the open season and laid down should not be sold in the close season, as owing to their being on the point of spatting, they are unfit for human food, *Anderson* 2474. 2477-2482. 2541, 2542. 2544-2546. 2551-2561—Opposite view to this opinion held by many oyster merchants, *ib.* 2475. 2476—Belief that the sale of oysters in such a condition benefits neither the grounds nor the public generally, *ib.* 2482-2547. 2551.—Admission that the company represented by witness sells such oysters during the close time; they are obliged to do so or would lose their customers, *ib.* 2484-2488—Opinion that the close season should be made absolute and should apply to all oysters whatsoever, *ib.* 2501-2504. 2507, 2508. 2511. 2539-2541.

Concurrence in the opinion that oysters are decidedly unwholesome during the spatting time, *Oatley* 2624-2627; *Johnson* 2917-2920.

Grounds for contention that the French oysters are perfectly fit for food although they are in spat when sold in May, June, and July, *Austin* 2670-2684. 2729—Reference to the Whitstable Sea Fishery Committee, and to the resolution passed by that body deprecating any further action being taken by the Fishmongers' Company to enforce the observance of a close season, *ib.* 2687, 2688—Contention that close times for oysters should be altogether abolished, as so far from improving matters they are of little avail, and inflict great injury on an extensive industry, *ib.* 2691-2695. 2697-2701. 2722-2725. 2738, 2739. 2759-2762.

Statement read by witness explaining the great extent to which the oyster trade depends upon the importation of foreign oysters, and objecting to a close time on the ground that it would inflict injury upon thousands of men by depriving them of work, *Richardson* 2765, 2766. 2774, 2775—Contention that the oysters referred to are

perfectly

OYSTERS—continued.

1. *Conflicting Evidence on the Question of a Close Time, &c.*—continued.

perfectly wholesome during the summer months, *Richardson* 2766-2769—Indisposition of witness to eat oysters that are spatting. *ib.* 2777-2780. 2787-2792.

Statement prepared by the Oyster Trade Committee of the Fishmongers' Company on the subject of the fisheries, and the proposed prohibition of sale during the summer months, the operation of the Act of 1877, &c., *Barber* 2803-2805; *App.* 385—Grounds for contention that the public do not suffer in any way by the sale of oysters during the months of June, July, and August, *Barber* 2810-2816—Objection to a close time as being unnecessary and prejudicial, as the absence of dredging, &c., during such close time would allow the beds to get foul or dirty, *ib.* 2817-2821. 2827, 2828. 2832, 2833.

Desirability of an extension of the English close time to foreign oysters imported, *Johnson* 2922, 2923—Grounds for conclusion that it is most desirable that the sale of all oysters, except those from Portugal and America, should be forbidden during the summer months; advantages which have already accrued through the application of the close season, *Berrington* 2950-2955.

Conclusion that the spatting season of all oysters is at about the same time of year; information hereon with regard to the various close times, *Berrington* 2965-2971—Evidence respecting the Act of 1868 by which concessions may be made constituting certain areas private fisheries, *ib.* 2967, 2968. 2977-2982—Denial that the suggested close time would be of sufficient duration as to allow the oyster beds to become silted up through the cessation of the dredging, which is necessary to keep them clean, *ib.* 2974, 2975.

Suggestions as to the gradual application of restrictions, so as not to interfere too much with fishermen by closing all the beds at once, *Lord Montagu* 4658-4661. 4666-4668—Decided approval of a close time, *ib.* 4666-4668—Question of a close time applying to the sale of French oysters in England, *ib.* 4692-4694—Reference to the North Sea oyster beds; opinion that a close time should be instituted for them, *Exton* 5115-5126.

2. *Characteristics of British and Foreign Oysters respectively, with special reference to Spatting :*

Evidence respecting the characteristics by which relaid oysters can be distinguished from those bred on home grounds, a foreign oyster not assuming the appearance of a British oyster till the third or fourth generation, or longer, as the case may be, *Anderson* 2489-2491. 2509, 2510—Belief that foreign oysters will, under favourable climatic conditions, breed in English grounds, as they spat at the same seasons as the British oyster; unfavourable conditions for breeding during the last thirty years, *ib.* 2492-2493. 2508. 2521-2526. 2548, 2549. 2562 *et seq.*

Assertion that the French oyster spats freely in British waters; production of specimens in support of this statement, *Oatley* 2582-2587. 2603-2609. 2640, 2641—Large amount of spat cast by the relaid French oysters in 1887, *ib.* 2588-2591—Up to two years witness can readily distinguish between British and foreign oysters, but not afterwards, *ib.* 2636.

Opinion that the oysters produced by Mr. Oatley cannot legally be sold during the close season in England, *Anderson* 2657, 2658—Disagreement with the statement that it is impossible to distinguish between British and foreign oysters after the second year, *ib.* 2659-2661.

Opinion that the French oyster imported by witness spat in English waters, *Austin* 2664-2666—Impossibility of distinguishing between the progeny of foreign oysters and that of natives; exception made in the case of Portuguese, which are easily distinguishable, *ib.* 2667. 2705-2709—Explanation that French oysters are laid down in March or April and sold during the summer months as English oysters; denial that this inflicts any injury upon the English beds, *ib.* 2668, 2669. 2685, 2686. 2689. 2733, 2734.

Statement that French oysters undoubtedly spat when laid down in English beds; reference, as a case in point, to the heavy fall of spat in 1887, *Johnson* 2921. 2924-2928—General concurrence with the statement as to the time, viz., from five to seven days, taken by spat in developing, *ib.* 2934-2936—In the waters of the Medina Company witness can readily distinguish English from foreign oysters, *ib.* 2937-2941.

Statement that to a certain extent foreign oysters can be readily distinguished from natives; specimens produced in explanation, *Berrington* 2960-2962—Importance attached to oysters being not less than about four years old for spatting purposes, *Lord Montagu* 4661, 4662. 4683—Calculation that about 25 per cent. of oysters spat in any one year, *ib.* 4679-4682.

3. *American Oysters :*

Belief as to the impossibility of American oysters spawning in British waters; witness has never seen any indication of their spawning, *Richardson* 2766. 2776. 2783-2787.

OYSTERS—continued.

3. *American Oysters*—continued.

Apprehension with which witness would view any prohibition of the sale of American oysters in this country during the summer months, on account of the injury that would accrue to an extensive industry, *Petrie* 2859, 2860, 2871, 2878—Statement that the imported American oysters do not spat; opinion that they are in the best condition during the summer months when very large quantities are sold, *ib.* 2865, 2868, 2869, 2879-2881, 2884, 2885—Facility with which these oysters can be distinguished from those bred in Europe, *ib.* 2872-2876.

Reference to American and Portuguese oysters as being of a different species from the ordinary native, *Berrington* 2972, 2973.

4. *Diminution of the Native or Home Supply; Causes to which due:*

Serious diminution and depletion of the native oyster beds in this country, *Anderson* 2499, 2500, 2518-2520, 2571—Evidence showing how oyster spat is deposited and the extent to which it is affected by climatic conditions, *Oatley* 2618-2623, 2643-2653.

Depletion of the English oyster beds entirely owing to the unfavourable conditions for spatting, *Austin* 2690, 2696, 2740—Difficulty of breeding oysters by artificial means and in enclosed waters, *ib.* 2702-2704, 2747, 2748—Information respecting the scarcity of oyster spat; statement that there has been no considerable fall of spat since 1859, *ib.* 2716-2721, 2726, 2727, 2741-2747.

Statement that the comparative failure of oyster spat since 1859 is due to the coldness of the summer seasons and to the foulness of the river bottoms, *Barber* 2823-2829, 2850-2855—Suggestion that the Sea Fisheries Committees should be entrusted with larger powers for the protection of the oyster fisheries; details of the powers which should be conferred upon these bodies, *Berrington* 2958, 2959, 3008.

Failure of the beds generally along the English coast, witness feeling satisfied that this is due to over dredging, *Lord Montagu* 4651, 4652—Conclusions as to the effect of temperature in regard to spatting, *ib.* 4684-4687.

5. *Beaulieu River Fishery:*

Explanations in connection with oyster culture in the Beaulieu River, which is tidal from Beaulieu to the sea, the beds having been formerly in the hands of the Alston family, and having been largely used for growing oysters, brought from elsewhere, for removal to Whitstable, *Lord Montagu* 4645-4650.

Failure of the Beaulieu fishery before it came into the possession of witness, the scarcity of oysters on the beds having been caused by over-dredgings; large oyster trade formerly carried on at the fishery, *Lord Montagu* 4647-4654.

6. *Artificial Propagation:*

Opinion that the culture of oysters and lobsters, if properly carried out, would be advantageous and profitable, *M'Intosh* 3505-3510—Failure of experiments by witness and others to replenish the beds by artificial breeding in ponds; some prospect however of eventual success, *Lord Montagu* 4663-4666, 4674, 4675, 4688-4691.

7. *Over Dredging:*

Opinion that the unproductiveness of oyster spat is largely caused by over dredging, and is not wholly attributable to adverse climatic considerations, *Berrington* 2955-2957.

Information as to the beds at Arcachon and elsewhere in France, and as to the successful results from the restrictions placed upon dredging, witness advocating similar regulations in this country, *Lord Montagu* 4655 *et seq.*—Equally successful results obtained in the Scheldt from the restrictions upon dredging, *ib.* 4655-4657.

8. *Statistics of Import, Price, &c.:*

Statement that 90,000 French oysters were laid down in 1887; details concerning their spawning, *Oatley* 2597-2602, 2610-2615—Information respecting the immense number of oysters imported and the mode adopted in relaying; about 130,000,000 of a value of 160,000*l.* are so imported, *Petrie* 2885 *et seq.*—Enormous import of oysters, whereas the British oyster is probably superior to all others in quality, *Lord Montagu* 4676-4677—Great sale of foreign oysters during the close season, *Anderson* 2494-2498, 2538.

Statistics of the total quantity, value, and price in each of the years 1886-92, *App.* 376.

9. *Conclusions of the Committee:*

Reference to the evidence as proving, incontestably, the extensive depletion of English oyster beds, *Rep.* vi—Main cause of the depletion the repeated and continued failure of the spatting seasons; further inquiry desirable on this point, *ib.*

Several grounds upon which the Committee are adverse to any prohibition, during close time, upon the sale of foreign oysters brought to England and relaid on British beds, *Rep.* vi.

P.

Parkinson, Peter. (Analysis of his Evidence.)—Has been a fisherman at Withernsea for seventeen years; represents the fishermen from the Spurn to Bridlington, 6784-6790.

Examination as to the nature of the fishing; it consists principally of crabbing, with a little cod-fishing at the end of the year, 6791-6796. 6846-6848—Complaints of the fishermen as to the great damage done to the lines by the fifty-ton Grimsby and Yarmouth smacks, 6797-6807. 6831-6838—Falling off in the take of fish owing to the large hauls made by the smacks, 6808-6812.

Statement that crabs are smaller and scarcer than formerly, owing to the large numbers caught by the Sherringham yawls, which also carry away the crab spawn to their own grounds, 6817-6824—Reference to the advice of the district fisheries committee to place any such case in the hands of the police, 6825-6827—Evidence showing the desire of the fishermen for protection, 6829-6830. 6842, 6843. 6849, 6850.

Peterhead. Witness (who is baillie of the burgh of Peterhead, and has been engaged as a fish dealer and curer for the last twenty-five years) represents the fishing community of the burgh; evidence on their behalf, *Mitchell* 7615 *et seq.*—Very unsatisfactory results in the case of the haddock fishery as regards the earnings of the men, *ib.* 7641-7667.

Attention drawn to the fact that the want of harbour accommodation is severely felt at Peterhead; opinion that the north arm of the present harbour of refuge should be made at once, instead of waiting until the south arm is finished, *Mitchell* 7696-7708. 7722-7726.

Statement, submitted by Mr. Mitchell, containing statistics in detail respecting the fisheries off Peterhead, the number of boats and of fishermen, and the gross and net earnings, *App.* 407.

See also *Herring Fisheries. Scotland.*

Petrie, Charles. (Analysis of his Evidence.)—Is engaged in a large trade in connection with American oysters, 2857, 2858.

Apprehension with which witness would view any prohibition of the sale of American oysters in this country during the summer months, on account of the injury that would accrue to an extensive industry, 2859, 2860. 2871. 2878—Statement that the imported American oysters do not spat; opinion that they are in the best condition during the summer months when very large quantities are sold, 2865. 2868, 2869. 2879-2881. 2884, 2885—Facility with which these oysters can be distinguished from those bred in Europe, 2872-2876.

Information respecting the immense number of oysters imported and the mode adopted in relaying; estimate that about 130,000,000, of a value of 160,000 £, are so imported, 2885 *et seq.*

Pickering, Christopher. (Analysis of his Evidence.)—Is a smack-owner of Hull; has considerable experience, 843-885.

General concurrence in the views expressed by previous witnesses from Hull; opinion that the stoppage of the sale of small fish would be sufficient to protect the fishing industry, 844-846. 880—Details as to the very poor prices fetched by the sale of under-sized plaice, 847-850—Statement that a very small quantity of dabs are ever caught, and are not, as a rule, sent to market, 854-856. 873-879.

Details of the large size and the improved appliances of witness' steam trawlers, 857-860. 869—Opinion that the size of mesh of fishing nets has little to do with the capture of undersized fish, 861-864—Reference to the deterioration in the fisheries through over-fishing; opinion that unless measures be taken the supply of flat-fish will be seriously impaired, 887-893.

PLAICE:

Opinion that plaice is the principal species of immature fish caught, *Townse* 181-185—Statement that, owing to the capture of immature fish, the size of plaice taken in the North Sea near Heligoland and the Humber has decreased materially, *Simpson* 746-754. 766-769. 789, 790—Details as to the very poor prices fetched by the sale of the undersized plaice, *Pickering* 847-850.

Evidence respecting the falling off in the size of the North Sea fish; assertion that this deterioration is most marked in the case of plaice, *Normington* 1083—Large quantities of immature plaice taken when fishing for soles, *ib.* 1182-1185.

Reference to the unsatisfactory nature of the plaice now caught; sample produced, *Jez* 1994—Increase of sixteen per cent. in price, *Berrington* 2433.

Desirability of checking the capture of plaice but seven inches long, *McIntosh* 3441—Statement that plaice in Scottish waters spawn at a length not less than seventeen inches, and in the southern waters at about twelve inches, *ib.* 3442, 3443—Suggestion that if a restriction be placed upon the sale of undersized fish the minimum legal size should be twelve inches, *ib.* 3445, 3446.

Report, 1893—continued.

PLAICE—continued.

Suggested size-limit of thirteen inches for plaice, *Holt* 3946. 3953. 3958. 3975-3983. 4003. 4004. 4104-4107—Statement showing the proportion of plaice from seven to thirteen inches, and from four to seven inches, taken by a steam-trawler on certain grounds in May 1893; *ib.* 4123.

Grounds for the conclusion that plaice and lemon soles should be exempted from the proposed restrictions as to size, *Calderwood* 4358, 4359. 4365-4369. 4429, 4430. 4492-4496—Evidence respecting the great quantity of plaice in the market this summer, and its low price, those landed having been either coarse Iceland fish, or small ones from the German coast, *Hatton* 5179-5187.

Statistics supplied by Mr. Holt respecting the quantity and size of plaice landed at Grimsby, *App.* 399.

Percentages of fish of different sizes caught on various North Sea grounds; also, analysis of length of hauls, *App.* 400.

Conclusion of the Committee that there can be no doubt about the diminution of plaice in the North Sea fisheries, *Rep.* iv.

See also *Size Limit.* *Solas.*

Plymouth. Complaint that the trawling industry at Plymouth is not properly represented on the local district fishery board; explanation that until some remuneration or guarantee for expenses is given, the fishermen could not afford to send a competent representative, *Holboy* 7941-7949—Explanation that the Plymouth waters are not frequented by steam trawlers, because the fish caught there are too common to pay for steam trawling, *Kent* 7985-7989.—See also *Hake.* *South Coast.*

Police. See *Sea Police.*

Port Errol and Boddam. Witness, who is a fisherman of Port Errol, represents the Port Errol and Boddam fishermen; evidence on their behalf, *Duthie* 7216 *et seq.*

See also *Herring Fisheries*, 2.

Predacious Fish. Large amount of predacious fish destroyed by trawlers, *Pyper* 6503-6506. 6593, 6594.

Prentice, William. (Analysis of his Evidence.)—Is a trawling fisherman, and owner of twelve boats at Great Yarmouth, 5476-5480.

Details concerning the size and the working of the boats; they range from thirty-seven to seventy-three tons, 5481-5486—Evidence showing that, although there has been no diminution in the general take, there has been a falling off in the quantity of mature fish caught, 5487-5490. 5549, 5550—Information respecting the decrease in profits owing to the fish taken being so small, 5491-5494. 5534-5543.

Statement that the deterioration in the size of the fish is due to the increased killing power, and to there being a market for the sale of small fish, 5495-5500—Belief that the prohibition of the sale of small fish would improve the fisheries generally, 5501-5506—Experience respecting the practicability of sorting fish on the deck of a trawler; conclusion that one-half would live on being returned to the sea, 5507-5510. 5545-5547—Opinion as to the uselessness of regulating the mesh of fishing nets, closing certain grounds, or instituting close times, 5511. 5514-5533. 5544. 5548. 5551, 5552.

Prices. Details of the prices fetched by the sale of the undersized fish caught by witness' smacks off the east coast, *Roach* 836—Statement that the price of fish has increased two-fold during witness' experience, *Wallis* 905-909—Denial that the price of fish has increased to any material extent, *Little* 1334, 1335—Higher price generally than ten years ago, *Hame* 1581, 1582. 1683-1689.

Statement that during the experience of witness the price of some fish has gone up 500 or 600 per cent. through the depopulation of the fishing grounds, *Jex* 1942, 1943. 1945—Opinion that the average price of all wet fish has increased by about 13 per cent.; table submitted in support of this conclusion, *Berrington* 2432-2434—Better average earnings of the fishermen through the increased price obtained for their fish, *Swan* 4834-4838.

Statement in detail showing the total quantity, value, and price of different kinds of fish landed on the English and Welsh coasts in each of the years 1886-92; *App.* 376.

Prohibition of Areas. Suggestion that certain areas should be prohibited to vessels of all nations for several months in the year, *Jeffs* 631-642. 658, 659. 669. 701. 704, 705. 717-719. 730—Belief that the closing of certain areas would be most beneficial to the fisheries, *Murrell* 1906-1909—Opinion that the closing of certain areas would be preferable to the prohibition of trawling, *Berrington* 3053-3061.

Details showing the uselessness of closing certain areas owing to the migration of the fish, *Wright* 5584-5587. 5617-5621. 5627-5629—Objection to closed areas, owing to the difficulty

Report, 1893—continued.

Prohibition of Areas—continued.

difficulty in preventing fishermen from using them, *Maconochie* 5806, 5807. 5889-5897
—Desirability of closing certain portions of the sea from the 1st February to the 15th March, *Freeland* 6374-6377.

Protective Measures. Suggestion that three courses should be taken to protect the fish, viz., the prohibition of certain areas, a close time for all fish, and the propagation of fish artificially, *Alward* 425-448—Admission that the proposed measures would be very difficult of enforcement, *ib.* 449-458—Necessity for prompt measures to be taken in order that the supply of food fish may be maintained, *McIntosh* 3414-3416. 3430-3432.

Opinion as to the uselessness of regulating the mesh of fishing nets, closing certain grounds, or instituting close times, *Prentice* 5511. 5514-5533. 5544. 5548. 5551, 5552.

See also *Close Time.* *Nets.* *Prohibition of Areas.* *Territorial Limit.*

Pyper, William. (Analysis of his Evidence.)—Is the originator of the steam trawling industry at Aberdeen, 6440, 6441.

Description of the trawling fleet managed by witness; it consists of ten vessels of about 100 feet in length and twenty feet in breadth, 6442-6448. 6629-6636—Remunerative nature of the industry; estimate that the total take last year was worth 173,000*l.*, of which 70,000*l.* was for flat fish, 6449-6452—Admission that the three-mile limit may occasionally be infringed upon, but it is against instructions, 6454-6457.

Objection to such a large area as the Moray Firth having been closed to trawlers, 6457-6463—Particulars as to the fishing grounds of the trawlers; denial that Aberdeen Bay has been fished out, 6464-6476. 6597-6599—Small quantity of immature fish caught, owing to the six-inch mesh being used, 6477-6481. 6608-6612—Belief that the Scotch steam-trawling industry would accept a size limit for flat fish, 6482-6487. 6603-6607.

Details respecting the diminution of boats at small places along the coast; belief that a good many men have moved to Aberdeen on account of the market, as the line-fishing produce has greatly increased there, 6488-6492. 6552-6560. 6600-6602. 6613-6626—Conclusion that statistics show that line fishing, although not as profitable as trawl fishing, has not deteriorated, but has increased at the rate of 20 to 30 per cent., 6493-6501—Information as to the large amount of predacious fish destroyed by trawlers, 6503-6506. 6593, 6594—Contention that spawn floats, and cannot therefore be destroyed by trawlers, 6507-6510.

Evidence showing the importance of the trawling industry to Aberdeen; employment of 1,600 hands in trawling and curing, 6513-6517—Submission that trawlers should not be interfered with, as they improve the fisheries; opinion, moreover, as to the impossibility of diminishing the supply of fish, 6518, 6519. 6528-6551. 6572-6575. 6581-6593—Evidence respecting the desirability of making a six-inch mesh compulsory, 6520-6522. 6576-6578. 6638-6640—Opinion that trawlers are as profitable now per ton as they were two years ago, 6563-6571—Evidence as to the undesirability of extending the territorial limits, 6579, 6580. 6642-6648.

Q.

Quantity. Great importance of protecting the fish supply; reference hereon to the resolutions on the subject and to the minimum sizes allowable for landing passed by the London Fish Trades' Association of Fish Buyers, *Towse* 163-168—Evidence showing that despite the increase of the catching power the quantity of fish taken during the last six years has seriously decreased; table handed in showing the actual figures, *Berrington* 2422-2429—Considerable difference between drift net fish and bottom or trawled fish as regards the question of supply; increase in the latter case, *Cunningham* 4177.

Total quantity of each kind of fish returned as landed on the English and Welsh coasts in each of the years 1886-92, *App.* 376.

See also *Board of Trade Returns.* *Close Time.* *East Coast.* *Herring Fisheries.* *North Sea Fisheries.* *Prices.* *Scotland, l.* *Size Limit.*

R.

Railway Rates. Information as to the prohibitive railway rates on fresh fish, especially herrings; estimate that only 3 per cent. of those caught are sent by rail, *Maconochie* 5856-5860. 5903-5910—Standing grievance in Scotland through the excessive railway rates, especially for the English markets, *Dunnott* 7414-7419. 7422-7424; *Macadie* 7534, 7535. 7558-7561; *Mitchell* 7625-7627.

Report, 1893—continued.

Ramsgate. Objection on the part of Ramsgate fishermen to any legislative interference in the fishing industry, on the ground that it is uncalled for and that there is no falling off in the quantity of the fish caught, *Caseley* 1741-1743. 1748. 1750. 1754. 1791-1794. 1806-1809—Information respecting the extensive fishing grounds worked by the Ramsgate fishermen; they extend as far north as Lowestoft, *ib.* 1741-1747. 1781, 1782—Reiteration of statement that there is no falling off in the quantity of the fish caught; admission that a slight deterioration in size is noticeable, *ib.* 1783-1785.

Representation of Fishermen. See *Fishery Committees*.

Return of Immature Fish to the Sea. See *Immature Fish*, 3.

Richardson, Joseph Edward. (Analysis of his Evidence.)—Is deputy-mayor of Brightlingsea, where there are a number of oyster importers, 2763.

Statement read by witness explaining the great extent to which the oyster trade depends upon the importation of foreign oysters, and objecting to a close time, on the ground that it would inflict injury upon thousands of men by depriving them of work, 2765, 2766. 2774, 2775—Belief as to the impossibility of American oysters spawning in British waters; witness has never seen any indication of their spawning, 2766, 2776. 2783, 2787—Contention that the oysters referred to are perfectly wholesome during the summer months, 2766-2769—Indisposition of witness to eat oysters that were found to be spatting, 2777-2780. 2787-2792.

Roach, Richard. (Analysis of his Evidence.)—Is a smack owner at Hull and a shareholder in the Steam Trawling Company, 833, 842.

General concurrence of witness with the opinions of Messrs. Jeffs and Tooze, 835—Details of the prices fetched by the sale of the undersized fish caught by witness' smacks, 836—Suggestion that the landing and sale of such fish should be prohibited, 837-839—Objection to close times, 840, 841.

Round Fish. Disapproval of any restriction as to round fish or their size, *Cunningham* 4162.

S.

St. Combs (Fraserburgh). Witness (who is a fisherman at St. Combs, and has been engaged in fishing for the last fifty years) represents the majority of the fishermen and curers of his district; evidence on their behalf, *Bruce* 7114 *et seq.*

Sale of Immature Fish. See *Immature Fish*. *Size Limit.*

Salmon Nets. Attention drawn to the danger to fishermen caused by the stakes of salmon nets; many fishermen have sustained very heavy loss in nets and fish and had no redress, *Sutherland* 7588-7600.

Saunders, W. I. (Analysis of his Evidence.)—Is a fish salesman and smack owner of Brixham; is also chairman of the Smack Owners' Association, 1457, 1458.

Statement that there is no falling off in the quantities of fish caught, with the exception of hake and mullet, 1469-1471. 1474. 1521, 1522—Belief that Brixham is the oldest trawling port in the kingdom, 1472, 1473—Opinion that the steam trawlers are responsible for the falling off of the fisheries in the North Sea, 1475-1479.

Conclusion that a close time for ground nets would be beneficial, but that it is not necessary as regards trawling, 1488-1490—Confirmation of Mr. Little's evidence as regards the inaccuracy of the Board of Trade Returns, 1504-1508—Opinion that very few fish live after being caught and returned to the sea, 1511—Willingness of witness to accept a limit of size of ten inches for brill and turbot, and of eight inches for soles and plaice, 1494-1498. 1515, 1516.

Scarborough. Opinion that Scarborough is one of the finest nurseries for fish in Great Britain, *Sheeder* 6705, 6706—Examination regarding the work done by the district committee; the greater part of the members are landmen, and are afraid of incurring expenses, *ib.* 6738-6742.

Scientific Teaching. Belief that scientific teaching as regards the capture of immature fish, and as to propagation, would be extremely useful, *Alward* 366-373—Opinion that scientific lectures and teaching might, with great advantage, be applied to the fishing industries, *Normington* 1195-1198; *Dawson* 2283-2285; *Fulton* 3760-3763. 3772, 3773—Advantage derived from the lectures to fishermen by Professor Herdman, *Fell* 2152-2154.

Great difficulty in proving the definite results obtainable from further outlay in this country, as through the Marine Biological Association and the Scotch Fishery Commission; valuable results, however, from increased scientific investigations, and from the spread of more reliable information among fishermen respecting the various coast fisheries, the habits of the fish, &c., *Lankester* 3817-3819. 3880-3885—Effect of temperature, depth

Scientific Teaching—continued.

depth of water, &c., with reference to the size of fish and their breeding habits; limited scientific research hitherto upon these points, *Lankester* 3847-3856.

Suggestions as to the kind of boat required for scientific observations at sea, *Holt* 4094, 4095—Expediency of scientific teaching in connection with fish nurseries, *Herdman* 4611, 4612—Opinion that further teaching is not necessary as far as the Scotch fishermen are concerned, *Maconochie* 5787-5798—Belief that the fishermen appreciate the lectures given by theorists, *Sheeder* 6760-6765.

See also *Cleethorpes Laboratory*. *Marine Biological Association*.

SCOTLAND:

1. *Generally as to the Scotch Fisheries: Statistics in detail on various points.*

2. *Scotch Fishery Board: Want of Increased Powers and Increased Funds.*

1. *Generally as to the Scotch Fisheries: Statistics in detail on various points:*

Details as to the magnitude and importance of the Scotch fishing industry; explanatory statements and statistical tables handed in showing its increase and its value, *Esslemont* 3121-3140. 3273-3277. 3377-3383.

Evidence in support of statement that the closing of certain areas to trawlers but not to liners has resulted in but little improvement in the quantity of fish captured; reference hereon to the experiments made by the yacht "Garland," *McIntosh* 3394-3399. 3480-3485. 3612-3619—Explanations in connection with table showing the quantity and value of the fish landed from 1884 to 1892, *ib.* 3501-3505. 3550-3559.

Information regarding the three classes of fishing practised in Scottish waters; the monetary value is over one and a half millions, *Fulton* 3638, 3639—Considerable increase in round fish, with the exception of whiting, whilst there has been a large falling off in flat fish, *ib.* 3646-3648—Reference to the great increase that has taken place in the means of capture; table showing the beam-trawl vessels belonging to Scotland, *ib.* 3649-3656.

Depletion of the Scotch fisheries attributed to the large increase of trawling; reference hereon to the prohibition imposed by the Scotch Fishery Board in 1889 as being too extensive, *Calderwood* 4418-4424. 4477-4491.

Return showing the total quantity of herrings and cod and ling cured in Scotland in quinquennial periods from 1832 to 1892, *App.* 389.

Return showing the quantities and values of all fish landed in Scotland from 1889 to 1892, distinguishing the fish taken by net and line from those taken by trawl, *App.* 389.

Return showing the number of fishing-boats, beam-trawl vessels, and fishing material, with the value thereof, belonging to Scotland, as well as the number of fishermen employed during the years 1889-92, *App.* 390.

Account showing the quantities and value of fish, fresh and cured, imported into each port of Scotland in 1892, *App.* 392.

Return of fish landed during the months from December 1891 to April 1892, and from December 1892 to April 1893, in the fishery districts, extending from Aberdeen to Wick, *App.* 393.

Statement showing the quantities and values of fish landed in Scotland and consumed fresh in each of the years 1884-92, distinguishing between round fish and flat fish, *App.* 394—Number and value of shell fish landed in each year from 1883 to 1892, *ib.* 395.

Number of beam-trawl vessels and fishing boats in each year from 1883 to 1892, *App.* 396.

Statistics in detail respecting flat fish and round fish for the years 1886-92, in the case of the Firth of Forth and St. Andrew's Bay, *App.* 398.

2. *Scotch Fishery Board: Want of Increased Powers and Increased Funds:*

Opinion that the Fishery Board should have unlimited powers to regulate the various methods and appliances for fishing, *Esslemont* 3182. 3328—Very great difficulty experienced by the Fishery Board in carrying out its regulations; conclusion that the Admiralty should undertake this work, or that money should be voted so as to enable the local district boards to do so *ib.* 3190 3199. 3215-3225. 3241-3246. 3325. 3347-3351—Inexpediency of the proposed rate of 3d. in the £.; belief that a limited rate over the whole of Scotland would be far preferable, *ib.* 3200-3208. 3238.

Objection to the proposition that a lump sum of about 20,000*l.* should be given to the Fishery Board; inadequacy of such a sum commented on by witness, *Esslemont* 3209-3215. 3330—Statement that the Fishery Board could make more economical arrangements for the guarding of the fisheries than could the Admiralty; estimate that a suitable vessel for such service could be obtained for about 5,000*l.*; *ib.* 3237. 3266, 3267. 3354.

SCOTLAND—continued.

2. *Scotch Fishery Board: Want of Increased Powers, &c.*—continued.

Suggestion that the Coastguard should be at the disposal of the Fishery Board for the purpose of reporting and surveying, that the Admiralty cruisers should protect the fisheries outside the territorial limit, and that there should be a few vessels inside that limit to stop trawling, and to enforce bye-laws generally, *Esslemont* 3241-3246.

Importance of the Fishery Board having power to control all instruments used in fishing, *McIntosh* 3498—Reference to the great utility of the researches and experiments made through the "Garland;" opinion as to the increased advantages that would be attendant on the employment of a larger vessel, *Fulton* 3705-3714-3764-3766.

Expediency of the introduction of the representative element in the constitution of the Board, *Rep.* v.

Recommendation that the Board be supplied with adequate funds for the purpose of scientific investigations, efficient sea police, &c., *Rep.* v.

<i>See also Aberdeenshire.</i>	<i>Ayrshire.</i>	<i>Caithness.</i>	<i>Close Time.</i>	<i>Flat Fish.</i>
<i>Haddock.</i>	<i>Harbours.</i>	<i>Herrings.</i>	<i>Immature Fish.</i>	<i>Moray Firth.</i>
<i>North Sea Fisheries.</i>	<i>Peterhead.</i>	<i>Sea Police.</i>	<i>Trawling.</i>	<i>Wick.</i>

Scott, William George. (Analysis of his Evidence.)—Is a fisherman residing at Torquay; has been engaged in fishing for many years in sailing vessels, 4945-4952.

Statement that in the opinion of the fishermen of Torquay the quantity of fish has decreased, 4953-4958—Evidence to the effect that Torbay is a great breeding-ground for fish; details as to the kinds of fish caught there, 4959-4961. 4972-4977—Information respecting the great quantities of small fish caught and thrown overboard; belief that a large percentage of those so treated live, 4962-4968. 5013.

Decrease of fish at Torbay attributable to the increase in the number of trawlers which, notwithstanding the prohibition, trawl in the bay, 4978-4984—Inadvisability of increasing the limit of size at which fish might be sold, 4985-4987. 5003-5006. 5014—Details concerning the comparative destructiveness of the large and tuck seines, 4988-4996—Evidence respecting the contention between the hookers and the trawlers in the Devonshire fisheries, 4997-5000. 5009, 5010. 5015-5018.

SEA POLICE:

Opinion that power should be given to fishery officials whereby suspected vessels might be boarded, although outside the territorial limit, *Dawson* 2275-2278—Suggestion that each of the district committees should appoint officers to regulate the coast fisheries; belief that this would be more effective than would the institution of a sea police force raised by the Board of Trade, *Berrington* 3018. 3023. 3102-3112.

Unsuitability of large vessels of the "Jackal" type for patrolling the Scotch fishing grounds, *Esslemont* 3226-3229—Statement that the proposed division of the sea into areas would necessitate a more complete system of international police, *McIntosh* 3621-3628—Obstacles to the protection of extra territorial waters, the area being very extensive, *Holt* 3973. 4071-4074.

General feeling all along the Scotch coast that a better police protection should be afforded to sea fishermen; proposal that the policing of the coast should be placed under the Scotch Fishery Board, *McKenna* 6924, 6925. 6939-6943. 6952-6962—Attention drawn to the possibility of the charge for the sea police under the Sea Fisheries Regulation Bill falling heavily on a district that could ill afford to pay it, while a rich district might have very little sea policing to do, *McNaughton* 7065-7069—General feeling on witness' part of the east coast of Scotland that the sea police are insufficient and should be increased; statement that trawlers are continually fishing there at night, *Duthie* 7247-7255. 7272.

Objection to any proposal to tax the Wick population in order to support an increased police; approval of the Scotch Fishery Board having the direction of the sea police and the cost being paid out of the Imperial Exchequer, *Dunnett* 7439-7454. 7472-7489—Opinion that one good swift police boat would be sufficient to keep the coast between Kinnaird Point and Duncansby Head, if she were always steaming about on the station, *Macadie* 7497-7506. 7525-7531. 7539 *et seq.*—Conclusion that the least the Government can do is to protect the fisheries from trawling by providing efficient sea police; suggestion that the Admiralty might commission a few of their idle boats under the Fishery Board, *ib.* 7539-7561.

Opinion that trawling should be kept as far away from the Scotch coast as possible, and that there should be efficient sea police to see that the law is carried out; suggestion that the Fishery Board should have vessels of their own, which should be provided by the State, *Sutherland* 7601-7614—Belief that if one or two efficient police boats were put on the Aberdeen coast they would soon cure the evil of trawling in in-shore grounds; non-objection

SEA POLICE—continued.

non-objection to the fishery districts paying for the vessels if the Imperial Exchequer will not pay for them, *Mitchell* 7680-7688. 7727-7729.

Difficulties through the want of an efficient sea police for preventing fishermen from interfering with each other's operations, and injuring each other's gear, *Rep.* v—Inadequacy of the sea police as now provided by special cruisers, *ib.*—Recommendation that funds be provided for the establishment of an efficient sea police, *ib.*

Expediency of the proposed special force being provided with a number of fast steam vessels of a class similar to the newest examples of steam-trawlers, *Rep.* v—Recommendations of the Trawling Commission in 1885 for the establishment of an efficient sea police, *ib.*

Seine Nets. See *Nets*, 2.

Sheeder, George. (Analysis of his Evidence.)—Is at present a longshore fisherman at Scarborough; was formerly master of a boat, 6698-6702.

Statement as to the difficulty of making a living at line, or at crab and lobster fishing, 6702, 6703—Opinion that Scarborough is one of the finest nurseries for fish in Great Britain, 6705, 6706—Evidence as to the great destruction of immature fish and small crabs by trawlers; recently immature fish have been caught by liners, and a great increase noticed in the number of undersized crabs, both due, probably, to the restrictions on trawlers, 6707-6709. 6720-6727. 6730—Frequent infringement of the three mile limit by trawlers, 6711-6719.

Opinion that the times are worse now than a few years back, although last year the soleing was above the average, 6729. 6780-6783—Evidence as to the expediency of stopping trawling within a radius of fifteen miles if possible, 6730. 6734-6737. 6742-6745. 6756-6759—Work done by the district committee; the greater part of the members are landmen, and are afraid of incurring expenses, 6738-6742.

Practical abandonment of the herring fishery off Scarborough owing to the boats in use being unfit to compete with those of the Lowestoft men, 6746-6756—Belief that the fishermen appreciate the lectures given by theorists, 6760-6765—Difficulty of getting the complaints of the fisherman with regard to the trawlers represented at the Fishery Board, 6766-6779.

Shell Fish. Concurrence in the opinion that powers of limiting the areas of the grounds fished for shell fish might with advantage be conferred upon the district committees, *Fell* 2087-2093. 2108; *Berrington* 2461—Conclusion that the reservation of certain areas within territorial waters would be effectual in protecting shell fish only, *ib.* 2996. 3039. 3044—Desirability of prohibiting the sale of lobsters less than ten-and-a-half inches in length, and of crabs less than five inches in width, *McIntosh* 3511-3513.

Total quantity, value, and price of crabs, lobsters, oysters, &c., in each of the years 1886-92, *App.* 376.

See also *Crabs.* *Lobsters.* *Oysters.*

SHRIMP NETS AND TRAWLS:

Expediency of shrimp nets and shrimp trawls being put under regulations, *McIntosh* 3478, 3479—Immense quantities of very small plaice and other fish, which find their way from the spawning beds into the Humber; extensive and wanton destruction of great numbers of these by the shrimpers and seine men, *Holt* 4008-4039—Approval of the close time established for shrimpers on the Humber, *ib.* 4040-4044—Difficulty as regards hatcheries through the liability of the young fish to be destroyed in shallow water by the shrimp seiners, *ib.* 4076-4079.

Importance of preventing the immense destruction of young fish by shrimp trawlers and by the small mesh seine used for eels, *Dannevig* 4289. 4326-4328. 4331—Approval of a prohibition upon shrimp trawling where it is found to be very destructive to young fish, *Calderwood* 4381-4383.

Information as to the enormous quantities of immature food fishes taken by shrimp trawls off the coast of Lancashire, witness submitting that restrictions should be placed on shrimp trawling in the interest of the fisheries generally, *Herdman* 4558-4578. 4618-4626. 4635.

Representation by witness of the longshore fishermen and shrimpers of Lowestoft, there being about 130 men engaged in the trade, owning about fifty boats, *Spurgeon* 4695-4697—Denial that the Lowestoft shrimpers capture or destroy an immense number of immature fish, about 80 per cent. of those taken in the nets being promptly returned to the sea alive and unhurt; comparatively few such fish now taken by shrimpers on the east coast, though many are killed by the steam trawlers, *ib.* 4703-4709. 4713-4721. 4728-4731. 4753-4755. 4776-4783—Deprecation of any interference with the interests represented by witness, no serious damage being done to the fisheries by the shrimpers on the east coast, *ib.* 4732-4736.

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Considerable experience of witness in longshore fishing at Lowestoft, where he has three boats; he represents the boat shrimpers and alongshore men generally, *Swan* 4785-4793—Entire concurrence of witness in the evidence of Mr. Spurgeon, *ib.* 4794—Comparatively few immature or small fish taken by the shrimpers; practice to return these to the sea, *ib.* 4796-4803. 4820.

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Scarcity on the whole of shrimps and prawns on the south coast; possibility that they are over-fished in places, and fished, perhaps, at times when they are in a spawning condition, *Hon. J. S. Montague* 7735-7737.

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Simpson, Richard. (Analysis of his Evidence.)—Is manager of the Humber Steam Trawling Company and has experience of the whole of the fishing industry, 740-745. 830.

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Concurrence of witness in the proposal to prohibit the landing and sale of immature fish, provided that such prohibition were an international law, 777-781—Objection to close times on the ground that at certain localities the fish are so large that any restriction is unnecessary, 782, 783—Statement that the question as to whether fish live after being returned to the sea depends upon the length of haul; opinion that shorter hauls should be made, 802-808. 814.

Singe, —. (Analysis of his Evidence.)—Witness, who has taken great interest in the fisheries off Donegal, submits evidence showing the valuable fishing banks existing off that coast which cannot be worked for want of a harbour; statement that Cruit Bay affords all the facilities for making a first-class harbour, 6136-6142. 6144-6150. 6152. 6156-6159—Large population of the district and small means of livelihood; 3,000 or 4,000 migrate every year, 6143.

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SIZE LIMIT:

1. *Suggestions in detail respecting the Limit for each kind of Fish.*
2. *Different Limits proposed for different Fisheries.*
3. *Limits adopted by Belgium, France, and other Foreign Countries.*
4. *Exceptions taken to the proposed Restrictions.*
5. *Conclusions of the Committee.*

1. *Suggestions in detail respecting the Limit for each kind of Fish:*

Existence of considerable diversity of opinion as to what the minimum size should be, *Towse* 91, 92. 172, 173; *Alward* 341—Information respecting the minimum sizes for sale that were fixed upon by the various conferences; general view that anything under ten inches should be regarded as immature, *Alward* 342, 343—Definition of the term immature or undersized fish as being in the case of brill, lemon soles, plaice, soles and turbot, anything in size under twelve, eleven, ten, and twelve inches, respectively, *ib.* 398-404.

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Willingness

SIZE LIMIT—continued.

1. *Suggestions in detail respecting the Limits for each kind of Fish*—continued.

Willingness of witness to accept a limit of size of ten inches for brill and turbot and of eight inches for soles and plaice, *Saunders* 1494-1498. 1515, 1516—Conclusion that if legislation be applied, limits of ten inches for brill and turbot, and of eight inches for soles and plaice, would not be unreasonable, *Caseley* 1762, 1763.

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Explanation of witness' views in favour of the imposition of a size limit (on the south coast) as regards plaice, soles, and turbot, and the enforcement of penalties for the destruction of unmarketable fish: consideration of objections thereto, *Cunningham* 4141 *et seq.*; 4174-4176. 4229-4238—Advocacy of the limits of eighteen, sixteen, and twelve inches for turbot, brill, and soles, respectively, all round the coast, as this would enable these fish to spawn before they are captured, *Calderwood* 4367-4374. 4425-4436. 4454, 4455. 4467-4472—Advantage further claimed for the enlarged size limits proposed for turbot, brill, and soles, though entailing some obstacle to the fishing industry and though objected to by the fishermen, *ib.* 4502-4509. 4520-4527. 4534-4538.

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Suggestions respecting the limits of size at which fish should be sold; opinion that an average should be taken between maturity and the very small sizes, *Macconochie* 5767-5777. 5830-5834. 5861-5870—Belief that the Scotch steam trawling industry would accept a size limit for flat fish, *Pyper* 6482-6487. 6603-6607.

Opinion that the limits as to the size of fish recommended by the National Sea Fisheries Protection Association are in some cases unsuitable; view of the Plymouth fishermen, however, that the catching of immature fish must still go on, *Holboy* 7950-7955. 7968-7976—Approval of a restriction as to size being set upon fish, a different size being fixed for each kind of fish; attention drawn to the fact, however, that such a restriction would not save the immature fish, as they would be dead before being thrown overboard, *Kent* 8005-8015. 8049-8059.

2. *Different Limits proposed for different Fisheries:*

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3. *Limits adopted by Belgium, France, and other Foreign Countries:*

Opinion that the Belgian limit for unsaleable fish, viz., turbot and brill, ten inches, and other fish seven and one-fifth inches would be the best limit to adopt, *Little* 1369, 1370. 1434. 1455. 1456.

Tabular statement of the minimum sizes of sea fish as proposed by the Sea Fisheries Protection Association, 1893.

SIZE LIMIT—continued.**3. Limits adopted by Belgium, France, and other Foreign Countries**—continued.

Protection Association, as under the old English law, and as adopted in France, Denmark, Belgium, Prussia, and Holland, respectively, *App.* 380.

Reference by the Committee to the size limits adopted in Belgium, Denmark, and France, *Rep.* iv.

4. Exceptions taken to the proposed Restrictions:

Contention that injustice would be done to fishermen in certain waters by the adoption of a hard-and-fast limit of size, as some fish are more mature than others of equal size, *Casely* 1755-1761—Undesirability of restricting the sizes of the fish caught; contention that such a course would diminish the food supply of the country, *Fulton* 3690, 3691. 3730, 3731. 3754-3756. 3769, 3770—Obstacles and objections to regulations prohibiting the landing of plaice, soles, and other fish below a specified size; disapproval of a limit of ten inches for soles and plaice, *Spurgeon* 4718-4727. 4737-4755. 4774. 4775.

5. Conclusions of the Committee:

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Skegness (Lincoln). Information as to the fishing at Skegness, which consists principally of small flat fish, never larger than seven inches, caught in the shrimp nets along the shore, *Moody* 5024-5039. 5059-5065—Estimate that a catch of about seventy saleable flat fish constitutes a good day's work, *ib.* 5042-5044—Belief that there has been no alteration in the take of fish, *ib.* 5049-5053.

Explanation respecting the opposition of the fishermen to the District Fishery Board; none of its members are fishermen, *Moody* 5055-5058. 5066-5071.

Small Fish. *See Immature Fish. Size Limit.*

Solent, The. Impracticability of prohibiting fishing on certain grounds in the Solent; disapproval of any further restrictions on trawlers, *Montagu* 7749-7752.

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SOLES:

Conclusion that the North Sea has been practically depleted of soles owing to over-fishing and the capture of young fish, *Toozes* 497. 576-580—Reference to the unprofitable nature of the sole fisheries on the German Coast in spite of the fact that the price obtained is about ten times as much as it was formerly, *Normington* 1089-1094. 1136-1138. 1140-1142—Suggestion that the minimum size of soles permissible for sale should be eight inches, *ib.* 1229-1234. 1263—Great decrease in the catch, *Casely* 1787-1790; *Murrell* 1867-1872.

Information in support of estimate that the price of soles has gone up 1,000 per cent., *Jax* 1945-1950—Opinion that ten years ago the catch of soles was 200 per cent. more than it is now, *ib.* 1952-1954. 1979, 1980—Denial that soles from the South Coast fisheries are of better quality than those caught in the North Sea, *ib.* 2030-2033.

Advocacy of a close time during May and June for soles, *Dawson* 2254, 2255. 2386—Opinion that soles should be allowed to be caught from July to October, and that then the six-inch mesh might be used, *ib.* 2256-2258. 2269-2271. 2331-2334—Admission that a net with the seven-inch mesh would let the majority of soles weighing half-a-pound escape, *ib.* 2267.

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Objection to a limit of more than seven or eight inches in the case of soles, *Swan* 4798-4801. 4822-4828. 4839-4842—Reference to the large number of soles imported this year, *Hatton* 5188-5191—Evidence as to the undesirability of a ten-inch limit for soles, *Crawford* 6671-6678.

Total quantity, value, and price in each of the years 1886-92, *App.* 376.

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Evidence to the effect that the south coast fisheries have not fallen off as regards flat fish, and that prohibition upon the landing and sale of small fish is not required, *Little* 1283 *et seq.*—Statement that, instead of deteriorating, the fishing round about Plymouth has of late improved, owing to the absence of over fishing and to the constant change of fishing ground, *ib.* 1292-1294. 1414—Information respecting the constant change of venue, the trawlers having gone to the Lizard, the Scilly Islands, the British Channel, and to the south coast of Ireland, *ib.* 1295-1299—Conclusion that a general limitation of the size of saleable fish would be unfair to the southern fisheries, as the fish caught there are more mature than larger fish caught in the North Sea, *ib.* 1326, 1327, 1333.

Considerable falling off in the catches of soles on some of the fishing grounds off the coasts of Devonshire and Cornwall, whilst it is said that the supply of lemon soles has increased, *Cunningham* 4128, 4129—Information as to the extensive destruction of small fish by seines and shrimpers in the neighbourhood of Brixham and elsewhere on the south coast, and as to the steps proposed by the Devon Committee for restricting fishing by trawlers in territorial waters, *ib.* 4136-4140. 4225-4239—Explanation in connection with the distinction drawn between the south coast and the North Sea fisheries as regards the restrictions proposed with respect to size, &c.; reference hereon to the extensive destruction by steam trawlers in the former case, *ib.* 4199-4211—Approval of an extension of the proposed bye-law of the Devon Committee to a uniform limit of three miles from the shore, *ib.* 4239.

Exception taken to statements from Plymouth and Brixham that the local fisheries are successful, and that legislation is not required, *Calderwood* 4437-4453—Certainty that the fish, especially the round fish, are getting scarcer every year, the diminution being due to a certain extent to local reasons, such as the great increase in steamship traffic and the firing of big guns at both ends of the Solent, *Hon. J. S. Montagu* 7733, 7734-7741, 7742—Evidence to the effect that the chief mode of fishing on the south coast is trawling by small boats worked by local fishermen; absence of any regular steam-trawling industry, *ib.* 7735-7740.

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Southampton. Letter from the Clerk of the Southampton Harbour Board stating that the limits of size proposed by the local fishermen are for flat fish eight inches in length, and soles nine inches, *App.* 374.

Southport (Shrimp Trade.) Grievance as regards the Southport shrimping trade by foreign potted shrimps being labelled Southport, *Wright* 5597-5607. 5622-5626.

Spawn and Spawning. Denial that trawlers destroy the spawn of fish, *Dawson* 2392-2396—Belief that the spawning of food fishes takes place in the open ocean and that the young fish gradually find their way into the shallow waters, *McIntosh* 3400-3402—Denial that spawn is destroyed by the action of the trawl passing over the sea-bottom; explanation that spawn, with the exception of that of herrings, is held in suspension and does not sink, *ib.* 3403-3413.

Necessity for the periodical examination of the off-shore spawning areas (Scotland), *McIntosh* 3490—Estimate that 2,000*l.* per annum would cover the requisite expenditure, *ib.* 3491-3492—Difficulty of fixing the exact age at which fish mature, *ib.* 3632-3635.

Obstacles to utilising the spawn of fish caught by trawlers, *Günther* 3918—Extensive area over which fish spawn in the North Sea, but not within about ten miles of the coast, *Holt* 3969-3972—Difficulty in applying any regulations for the preservation of spawning fish, *Cunningham* 4170, 4171. 4192, 4193.

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Spurgeon, William. (Analysis of his Evidence.)—Representation by witness of the longshore fishermen and shrimpers of Lowestoft, here being about 130 men engaged in the trade, owning about fifty boats, 4695-4697—Lengthened experience of witness in longshore fishing off Lowestoft, where he has three boats of his own, 4698-4702.

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Spurgeon, William. (Analysis of his Evidence)—continued.

Denial that the Lowestoft shrimpers capture or destroy an immense number of immature fish, about 80 per cent. of those taken in the nets being promptly returned to the sea alive and unhurt; comparatively few such fish now taken by shrimpers on the east coast, though many are killed by the steam trawlers, 4703-4709. 4718-4721. 4728-4731. 4753-4755. 4776-4783—Great quantities of fish formerly off the coast, the depletion of the fishing grounds being mainly due to the operations of the numerous trawlers, 4709. 4713-4717. 4756-4777.

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Steam Trawlers. See *Trawling.*

Stornoway. Details respecting the disastrous results experienced this year by the Stornoway fishermen through their having established a close time a few years ago; estimated loss at 70,000*l.*, *Maconochie* 5736-5743. 5752-5754. 5911-5918. 5922-5930.

Sunday Trawling. Strong feeling of the Moray Firth Fisheries Association against Sunday trawling; acknowledgment of the difficulty of prohibiting trawling outside the three-mile limit on Sunday, *McNaughton* 7070-7072.

Sutherland, George Miller. (Analysis of his Evidence.)—Witness was formerly provost of Wick; is honorary secretary of the Caithness Fishermen's Society and represents their views, 7562-7564.

Unanimous feeling among the Caithness fishermen that trawling should be abolished and made illegal; statement that since trawling began the Caithness coast is perfectly valueless as a fishing ground, 7565 *et seq.*—Assertion that the trawlers seriously interfere with the herring spawning ground, 7571-7579.

Evidence to the effect that all the meetings of fishermen were in favour of a close time for herrings; practicability of the proposal if the whole of Scotland be divided into districts, 7580-7588—Attention drawn to the danger to fishermen caused by the stakes of salmon nets; statement that many fishermen have sustained very heavy loss in nets and fish and had no redress, 7588-7600.

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Swen, John. (Analysis of his Evidence.)—Considerable experience of witness in longshore fishing at Lowestoft, where he has three boats; he represents the local shrimpers and longshoremen generally, 4785-4793—Entire concurrence of witness in the evidence of Mr. Spurgeon, 4794.

Great falling off in the number of the fish off Lowestoft, caused by over-fishing by steam trawlers; witness, however, is not prepared to suggest any restriction on the present modes of fishing, 4795. 4804-4819. 4821. 4829-4831. 4843-4845—Comparatively few immature or small fish taken by the shrimpers; practice to return these to the sea, 4796-4803. 4820—Objection to a limit of more than seven or eight inches in the case of soles, 4798-4801. 4822-4828. 4839-4842.

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Tall, James. (Analysis of his Evidence.)—Witness is a shell-fisherman from Newton Ferrers, and represents the shell-fishermen of the locality; is a member of the Devon Sea Fisheries Committee, 7853-7855. 7886.

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Tall, James. (Analysis of his Evidence.)—continued.

Feeling of the Devon Sea Fisheries Committee, in favour of the payment of the expenses of those of their members who are practical fishermen; belief that when the committee is again appointed there will be no practical fishermen on it, unless their expenses are paid, 7886-7896.

Tampen, George. (Analysis of his Evidence.)—Witness, who is engaged in the fried fish trade at Rotherhithe, concurs with previous evidence as to the great scarcity of flat fish of a serviceable size; opinion that the capture of immature fish is the cause thereof, 1000-1006. 1024.

Belief that if the sale of undersized fish were prohibited there would be an improvement in the fishing business, 1007, 1008, 1044-1052—Particulars showing the difficulty of carrying on a profitable business owing to the smallness of the fish now supplied, 1009-1015—Statement that witness has been obliged to purchase four trunks of fish in order to get sufficient large fish for one trunk, 1016-1018. 1025-1041.

Taylor, Tubal Cain. (Analysis of his Evidence.)—Witness has had a long experience both in sailing and steam trawlers, and has been mate on a North Sea steam carrier, 5355-5358.

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Proposition to extend the fishing limit to ten miles on the other side, and to three miles on the English side, *Simpson* 761-765. 795-798. 827. 831, 832—Suggestion that the proposed limits should be marked out by lighted buoys, and that gunboat protection should be afforded, *ib.* 770-776. 811, 812. 817, 818—Great advantage if the territorial limit were extended to a distance of ten or twelve miles, *Esslemont* 3183-3186. 3248, 3249. 3319, 3320—Recommended extension of the three-mile limit to eleven or twelve miles, *McIntosh* 3537, 3538.

Advocacy of extension of the territorial limit by international agreement to nine or twelve miles, *Fulton* 3693-3697. 3732. 3778-3781—Objection to a fixed territorial limit of ten miles, *Holt* 4006, 4007—Belief in the efficacy of an extension of the territorial limit to eight or nine miles, *Erxtun* 5144-5149.

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Admission that the three-mile limit off Aberdeenshire may occasionally be infringed upon, but it is against instructions, *Pyper* 6454-6457—Evidence as to the undesirability of extending the limit, *ib.* 6579, 6580. 6642-6648.

Conclusion of the Committee as to the insufficiency of the present territorial limit of three miles, *Rep.* v—Expediency of the limit being extended, provided such extension can be effected upon an international basis, and with due regard to the rights and interests of all nations, *ib.*

See also *International Regulations.* *Sea Police.* *Trawling.*

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Toozes, H. (Analysis of his Evidence.)—Is an alderman and ex-Mayor of Hull; has a life-long experience of sea-fishing, 464-467.

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TRAWLING:

1. *Steam and Sailing Trawlers respectively; improved Appliances now used.*
2. *Extent to which the Deterioration of the North Sea and other Fisheries is attributable to the operations of Trawlers, especially Steam Trawlers.*
3. *Question of Prohibition or Increased Restrictions.*
4. *Local Bye-laws.*

1. *Steam and Sailing Trawlers respectively; improved Appliances now used:*

Details of the great increase in the tonnage and number of steam vessels employed in fishing; since 1886 there has been an increase of about 14,000 tons in these vessels and a decrease of 8,000 tons in the sailing vessels, *Towse* 47-56. 132-138—Evidence respecting the increased size of the trawl and other appliances, as used by the Grimsby fishermen, *Alward* 225, 226. 312. 350, 351—Opinion that as regards Grimsby the average size of the vessels of the present day is nearly double that of the year 1840, *ib.* 219-222.

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2. *Extent to which the Deterioration of the North Sea, &c.—continued.*

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Decided

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Turbot. Increase of 24 per cent. in the price of turbot, *Berrington* 2433—Great scarcity of turbot in the Lowestoft fisheries, *Spurgeon* 4714. 4721.

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U.

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V.

Value of Fish. Statement that during the last six years the value of the fish landed on the English and Welsh coasts has increased by 1,197,061*l.*; opinion that this increase was caused by a rise in the value and not in the quantity of fish caught, which has remained practically stationary, *Towse* 38-46. 93-97. 139. 186-192.

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West Coast. Representation by witness of the West Coast Fishermen and Labourers' Amalgamation Society, *Wright* 5553 *et seq.*

Table showing the quantity and value of fish landed on the west coast in each of the years 1886-92; *App.* 375.

Whitstable Oysters. See *Oysters.*

Wick. Witness (who is Provost of Wick, and has been intimately connected with the fishing trade for many years) now represents the local fishing industry at the request of the Town Council, *Dunnett* 7352 *et seq.*—Strong feeling amongst the Wick fishermen and all connected with the trade that the inshore fishing is being destroyed by the trawlers; very considerable falling off in the quantity of fish in the last few years because of the large increase in the number of trawlers, *ib.* 7358-7383. 7409.

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Williams, W. H. (Analysis of his Evidence.)—Witness is manager of the Falmouth Steam Fishery Company, which was a steam trawling company fishing beyond the three-mile limit in Falmouth Bay, 7788-7796.

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Witnesses' Expenses. Tabular statement containing particulars as to the expenses of witnesses for attendance before the Committee; total of 316*l.* 13*s.* 5*d.*; *Rep.* xxi, xxii.

Wright, John. (Analysis of his Evidence.)—Is a representative of the West Coast Fishermen and Labourers' Amalgamated Society; trawls for flukes and soles in the territorial waters between Blackpool and Liverpool, and also goes out shrimping, 5553-5564.

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Yarmouth. Details concerning the size and the working of the Yarmouth boats; they range from thirty-seven to seventy-three tons, *Prentice* 5481-5486.—Evidence showing that although there has been no diminution in the general take, there has been a falling off in the quantity of mature fish caught, *ib.* 5487-5490. 5549, 5550.—Information respecting the decrease in profits owing to the fish taken being so small, *ib.* 5491-5494. 5534-5543.—See also *East Coast.* *Herring Fisheries.* *Lowestoft.*

R E P O R T

FROM THE

JOINT COMMITTEE OF THE HOUSE OF LORDS AND
THE HOUSE OF COMMONS,

ON

STATUTE LAW REVISION BILLS;

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
27 July 1893*

L O N D O N :

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STATUTE LAW REVISION.

[*Tuesday, 28th February 1893*]:—Message from the Lords, THAT they have come to the following Resolution, viz.:—"That it is desirable that all Statute Law Revision Bills of the present Session be referred to a Joint Committee of both Houses of Parliament," to which they desire the concurrence of this House.

[*Tuesday, 7th March 1893*]:—Lords' Message [28th February] communicating the following Resolution, viz.:—"That it is desirable that all Statute Law Revision Bills of the present Session be referred to a Joint Committee of both Houses of Parliament," considered.

Resolved,—THAT this House doth concur with the Lords in the said Resolution.

Ordered,—THAT a Message be sent to the Lords to acquaint them therewith.

[*Monday 13th March 1893*]:—THAT they have appointed a Committee of Six Lords, to join with a Committee of this House, to consider all Statute Law Revision Bills of the present Session, and request this House to appoint an equal number of its Members to be joined with the said Lords.

[*Wednesday, 15th March 1893*]:—Lords' Message [13th March] relative to the appointment of a Joint Committee on Statute Law Revision Bills considered.

Ordered,—THAT a Select Committee be appointed of Six Members to join with the Committee of Lords, on the subject of Statute Law Revision.

Message to the Lords to acquaint them therewith.

Committee nominated of—

Mr. Bryce.
Mr. Solicitor General.
Sir Edward Clarke.

Mr. Ambrose.
Mr. T. M. Healy.
Mr. Howell.

Ordered,—THAT Three be the Quorum.

[*Friday, 17th March 1893*]:—Message from The Lords, THAT they propose that the Joint Committee on Statute Law Revision Bills do meet in Committee Room B upon Wednesday next, at Twelve o'clock.

Lords' Message considered.

Ordered,—THAT the Select Committee appointed by this House to join with the Committee of the Lords on Statute Law Revision Bills do meet in Committee Room B upon Wednesday next, at Twelve o'clock.

Message to the Lords to acquaint them therewith.

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R E P O R T.

THE SELECT COMMITTEE appointed to join with a Committee of the House of Lords to consider all STATUTE LAW REVISION BILLS of the present Session, to whom were referred the TRUSTEE (CONSOLIDATION) BILL [H.L.], the COPYHOLD (CONSOLIDATION) BILL [H.L.], and the ADMINISTRATION OF ESTATES (CONSOLIDATION) BILL [H.L.] ;—HAVE considered the matters to them referred, and have agreed to the following REPORT :—

THAT the Joint Committee have examined these Bills with the view of ascertaining whether they reproduce existing enactments with such alterations only as are required for uniformity of expression and adaptation to existing law and practice. They have not considered themselves justified in entertaining any suggestions for substantial amendment of the law, though they think it right to mention that in revising Clause 69 of the Copyhold (Consolidation) Bill, they have, in order to bring the Clause into conformity with the law, as proposed to be settled by the Public Authorities Protection Bill, substituted six months for three months as the limit of time for bringing an action, and abolished the local venue, and the requirement of notice of action. They have revised the Trustee (Consolidation) Bill, and the Copyhold (Consolidation) Bill, and are of opinion that these two Bills, in their amended form, may be accepted as useful and accurate measures of consolidation. They have also partially revised the Administration of Estates (Consolidation) Bill, but having regard to the exceptional difficulty of reproducing with accuracy the enactments which it embodies, they think that it would be more prudent to reserve this measure for further examination and criticism.

The Committee are, however, of opinion that the passing of similar measures of consolidation, under due safeguards for accuracy, would conduce materially to the simplification and improvement of the Statute Book.

18 *July* 1893.

PROCEEDINGS OF THE COMMITTEE.

Wednesday, 22nd March 1893.

MEMBERS PRESENT :

The Lord Chancellor.
Lord Thring.
Earl of Kimberley.

Mr. Howell.
Sir Edward Clarke.
Mr. Ambrose.
Mr. Bryce.
Mr. Solicitor General.

The LORD CHANCELLOR was called to the Chair.

Statute Law Revision (No. 1) Bill (H.L.) considered.

Preamble postponed.

Clauses 1—3, *agreed to*.

New Clause brought up, read a first and second time, and added to the Bill.

Motion made and Question proposed, "That it is desirable to repeal the Schedules to the several Statute Law Revision Acts"—(Lord Thring).—put, and *agreed to*.

Schedule amended, and *agreed to*.

Preamble, *agreed to*.

Ordered,—That the Bill, as amended, be reported to the House of Lords.

Ordered,—That Mr. Solicitor General be instructed to make this Report to the House of Commons.

[Adjourned till Wednesday, 28th June, at Twelve o'clock.]

Wednesday, 28th June 1893.

MEMBERS PRESENT :

The LORD CHANCELLOR in the Chair.

Earl of Morley.
Lord Thring.

Mr. Solicitor General.
Mr. Howell.
Mr. Bryce.

Trustee (Consolidation) Bill (H.L.) considered.

Preamble postponed.

Clause 1, amended, and *agreed to*.

Clauses 2—4, *agreed to*.

Clause 5, amended, and *agreed to*.

Clauses 6—9, *agreed to*.

Clause 10, amended, and *agreed to*.

Clauses 11—12, *agreed to*.

Clause 13, amended, and *agreed to*.

Clauses 14—22, *agreed to*.

Clause 23, *disagreed to*.

Clauses 24—27, *agreed to*.

Clause 28, amended, and *agreed to*.

Clause

Clause 29, *agreed to*.

Clauses 30—31, amended, and *agreed to*.

Clauses 32—37, *agreed to*.

Clauses 38—39, amended, and *agreed to*.

Clause 40, *agreed to*.

Clause 41, amended, and *agreed to*.

Clauses 42—50, *agreed to*.

Clause 51, amended, and *agreed to*.

Clause 52, *disagreed to*.

Clause 53, *agreed to*.

Clause 54, amended, and *agreed to*.

Clauses 55—58, *agreed to*.

Schedules, amended, and *agreed to*.

Preamble, *agreed to*.

Ordered,—That the Bill as amended be reported to the House of Lords.

Ordered,—That Mr. Solicitor General be instructed to make this Report to the House of Commons.

Administration of Estates Consolidation Bill [H.L.] considered.

Preamble postponed.

Clause 1, considered.

Further consideration of the Bill adjourned.

[Adjourned till Tuesday, 11th July, at Ten o'clock.]

Tuesday, 11th July 1893.

MEMBERS PRESENT :

The LORD CHANCELLOR in the Chair.

Lord Watson.
Lord Thring.
Earl of Morley.

Mr. Solicitor General.
Mr. Howell.
Mr. Ambrose.
Mr. Bryce.

Copyhold (Consolidation) Bill [H.L.] considered.

Preamble, postponed.

Clause 1, *agreed to*.

Clause 2, amended, and *agreed to*.

Clauses 3—14, *agreed to*.

Clause 15, amended, and *agreed to*.

Clauses 16—22, *agreed to*.

Clause 23, amended, and *agreed to*.

Clauses 24—27, *agreed to*.

Clauses 28—29, amended, and *agreed to*.

Clauses 30—34, *agreed to*.

Clause 35, amended, and *agreed to*.

Clauses 36—37, *agreed to*.

Clause 38, amended, and *agreed to*.

Clauses 39—43, *agreed to*.

Further consideration of the Bill adjourned till Tuesday next, at Eleven o'clock.

Tuesday, 18th July 1893.

MEMBERS PRESENT:

The EARL OF MORLEY in the Chair.

The Lord Chancellor.
Lord Thring.

Mr. Solicitor General.
Mr. Bryce.
Mr. Howell.

Copyhold (Consolidation) Bill [H.L.] further considered.

Clause 44, amended, and *agreed to*.

Clauses 45—49, *agreed to*.

Clauses 50—51, amended, and *agreed to*.

Clauses 52—53, *agreed to*.

Clause 54, amended, and *agreed to*

Clause 55, *agreed to*.

Clause 56, amended, and *agreed to*.

Clauses 57—68, *agreed to*.

Clause 69, amended, and *agreed to*.

Clauses 70—71, *agreed to*.

Clause 72, amended, and *agreed to*.

Clauses 73—76, *agreed to*.

Clause 77, amended, and *agreed to*.

Clauses 78—81, *agreed to*.

Clause 82, amended, and *agreed to*.

Clause 83—96, *agreed to*.

Clauses 97—98, amended and *agreed to*.

Clause 99, *agreed to*.

Clause 100, amended, and *agreed to*.

Clause 101, *agreed to*.

Schedules, *agreed to*.

Preamble, *agreed to*.

Ordered,—That the Bill as amended be reported to the House of Lords.

Ordered,—That Mr. Solicitor General be instructed to make this Report to the House of Commons.

DRAFT REPORT proposed by The Lord Chancellor, read the first time, as follows:—

“The Select Committee appointed to join with a Committee of the House of Commons to consider all Statute Law Revision Bills of the present Session, to whom were referred the Trustee (Consolidation) Bill [H.L.], the Copyhold (Consolidation) Bill [H.L.], and the Administration of Estates (Consolidation) Bill [H.L.] ;—Have examined these Bills with the view of ascertaining whether they reproduce existing enactments with such alterations only as are required for uniformity of expression and adaptation to existing law and practice. They have not considered themselves justified in entertaining any suggestions for substantial amendment of the law, though they think it right to mention that in revising Clause 69 of the Copyhold (Consolidation) Bill, they have, in order to bring the Clause into conformity with the law, as proposed to be settled by the Public Authorities Protection Bill, substituted six months for three months as the limit of time for bringing an action, and abolished the local venue, and the requirements of notice of action. They have revised the Trustee (Consolidation) Bill, and the Copyhold (Consolidation) Bill, and are of opinion that these two Bills, in their amended form, may be accepted as useful and accurate measures of consolidation. They have also partially revised

revised the Administration of Estates (Consolidation) Bill, but having regard to the exceptional difficulty of reproducing with accuracy the enactments which it embodies, they think that it would be more prudent to reserve this measure for further examination and criticism.

"The Committee are, however, of opinion that the passing of similar measures of consolidation, under due safeguards for accuracy, would conduce materially to the simplification and improvement of the Statute Book."

REPORT read a second time, and *agreed to*.

Ordered,—To Report.

Ordered,—That Mr. Solicitor General be instructed to make this Report to the House of Commons.

[Adjourned till Thursday the 27th July at Eleven o'clock for the consideration of Statute Law Revision (No. 2.), Bill [H.L.].

Thursday, 27th July 1893.

MEMBERS PRESENT :

The EARL OF MORLEY in the Chair.

The Lord Chancellor.
Lord Halsbury.
Lord Thring.
Mr. Bryce.

Mr. Solicitor General.
Mr. Ambrose.
Mr. Howell.

Statute Law Revision (No. 2.) Bill (H.L.).

Preamble postponed.

Clauses 1—2, *agreed to*.

Clause 3, amended, and *agreed to*.

Clause 4, *agreed to*.

Schedule 1—2, amended, and *agreed to*.

Preamble, *agreed to*.

Ordered,—That the Bill as amended be reported to the House of Lords.

Ordered,—That Mr. Solicitor General be instructed to make this Report to the House of Commons.

Ordered,—To Report.

R E P O R T

FROM THE

JOINT COMMITTEE OF THE HOUSE OF LORDS AND
THE HOUSE OF COMMONS,

ON

STATUTE LAW REVISION BILLS;

WITH THE

PROCEEDINGS OF THE COMMITTEE.

*Ordered, by The House of Commons, to be Printed,
27 July 1893.*

[*Price 1 d.*]

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Under 1 oz.

R E P O R T

FROM THE

SELECT COMMITTEE

ON THE

SUFFOLK COUNTY COUNCIL COMMITTEE (BORROWING POWERS) BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

AND

M I N U T E S O F E V I D E N C E.

*Ordered, by The House of Commons, to be Printed,
21 March 1893.*

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SUFFOLK COUNTY COUNCIL COMMITTEE (BORROWING POWERS) BILL.

Ordered,—[Monday, 6th March 1893]:—THAT the Bill be committed to a Select Committee of Five Members, Three to be nominated by the House, and Two by the Committee of Selection.

THAT all Petitions against the Bill presented three clear days before the meeting of the Committee be referred to the Committee; that the Petitioners praying to be heard by themselves, their Counsel, or Agents, be heard against the Bill, and Counsel heard in support of the Bill.

THAT the Committee have power to send for Persons, Papers, and Records.

THAT Three be the Quorum.

Committee nominated of,—

Sir Walter Foster.
Mr. Quilter.
Mr. Francis Stevenson.

}

Nominated by the House,
[Tuesday, 7th March 1893.]

Mr. Mount.
Mr. Rathbone.

}

Added by the Committee of Selection.
[Friday, 10th March 1893.]

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R E P O R T.

THE SELECT COMMITTEE to whom the SUFFOLK COUNTY COUNCIL COMMITTEE (BORROWING POWERS) BILL was referred, have considered the said Bill, which they have agreed to Report to the House; and have gone through the Bill, and made Amendments thereunto.

March 1893.

PROCEEDINGS OF THE COMMITTEE.

Friday, 17th March 1893.

MEMBERS PRESENT :

Mr. Rathbone.
Sir Walter Foster.
Mr. Francis Stevenson.

Mr. Mount.
Mr. Quilter.

Sir WALTER FOSTER was called to the Chair.

[Adjourned till Tuesday next, at Twelve o'clock.]

Tuesday, 21st March 1893.

MEMBERS PRESENT :

Sir WALTER FOSTER in the Chair.

Mr. Mount
Mr. Francis Stevenson.

Mr. Rathbone.

Preamble read the first time.

Mr. *Everett* (a Member of the House), sworn, and examined.

Preamble read a second time.

Question, That the Preamble is proved,—put, and *agreed to*.

Clause 1, *agreed to*.

Clause 2, Amendment proposed in line 26, after the words “ West Suffolk,” to insert the words “ appointed under Section 46 of the Local Government Act of 1888 ”—(The *Chairman*).

Question, That those words be there inserted,—put, and *agreed to*.

Clause, as amended, *agreed to*.

Clauses 3—4, *agreed to*.

Ordered, To Report the Bill, as amended, together with the Minutes of Evidence, to the House.

MINUTES OF EVIDENCE.

MINUTES OF EVIDENCE.

Tuesday, 21st March 1893.

MEMBERS PRESENT :

Sir Walter Foster.
Mr. Mount.

Mr. Rathbone.
Mr. Francis Stevenson.

SIR WALTER FOSTER, IN THE CHAIR.

Mr. ROBERT LACEY EVERETT (a Member of the House); Examined.

Chairman.

1. WILL you explain to the Committee the occasion for this Bill, and its provisions?—Suffolk is one of the counties which, for County Council purposes, is divided into two. It was not, however, intended in the first instance to be so divided; it was done by the action of the House of Lords just at the conclusion of the Session; and consequently it has not had applied to it those provisions which the other regularly divided counties have had. Being a divided county, and the lunatic asylum being the property of the whole county, the joint committee of the two counties of East and West Suffolk have the management of that institution, and we are now obliged to put a good many of our paupers out; we have not accommodation enough in the asylum. We have also had to provide a very costly new water supply. We quite expected to be able to borrow money to do this; we had the money offered, but when the parties who offered it came to look at the legal position in which we stood they refused to advance the money, on the ground that we were not able to give them what they considered to be proper legal security. We represented the matter to the Local Government Board. The

Chairman—continued.

Local Government Board rather demurred to the objection; they thought we had the legal authority, but those who had the money to lend were advised differently. We accordingly asked the Local Government Board if they would kindly get a short Act passed to make our position quite clear in the matter. They told us that their hands were so full they could not do that; but that if we would introduce a short Act we should have their cordial co-operation to get it through, and under those circumstances I was requested by the joint committee, who, in that matter, speak the views of the two separate County Councils, to introduce this short Act, and get it passed. Those are the circumstances under which the Bill has been introduced.

2. The real position is this: that whereas the various parts of Lincolnshire, which were made into separate County Councils, and the various parts of Yorkshire, which were made into separate County Councils, have powers under the Local Government Act, those powers were omitted in the case of Suffolk?—That is so.

3. And this Bill is to remedy that?—That is so.

R E P O R T

FROM THE

SELECT COMMITTEE

ON THE

SUFFOLK COUNTY COUNCIL COMMITTEE
(BORROWING POWERS) BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

AND

MINUTES OF EVIDENCE.

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